

Figure 1

Glucose growth and long-term starvation and multiplexed data aquistion

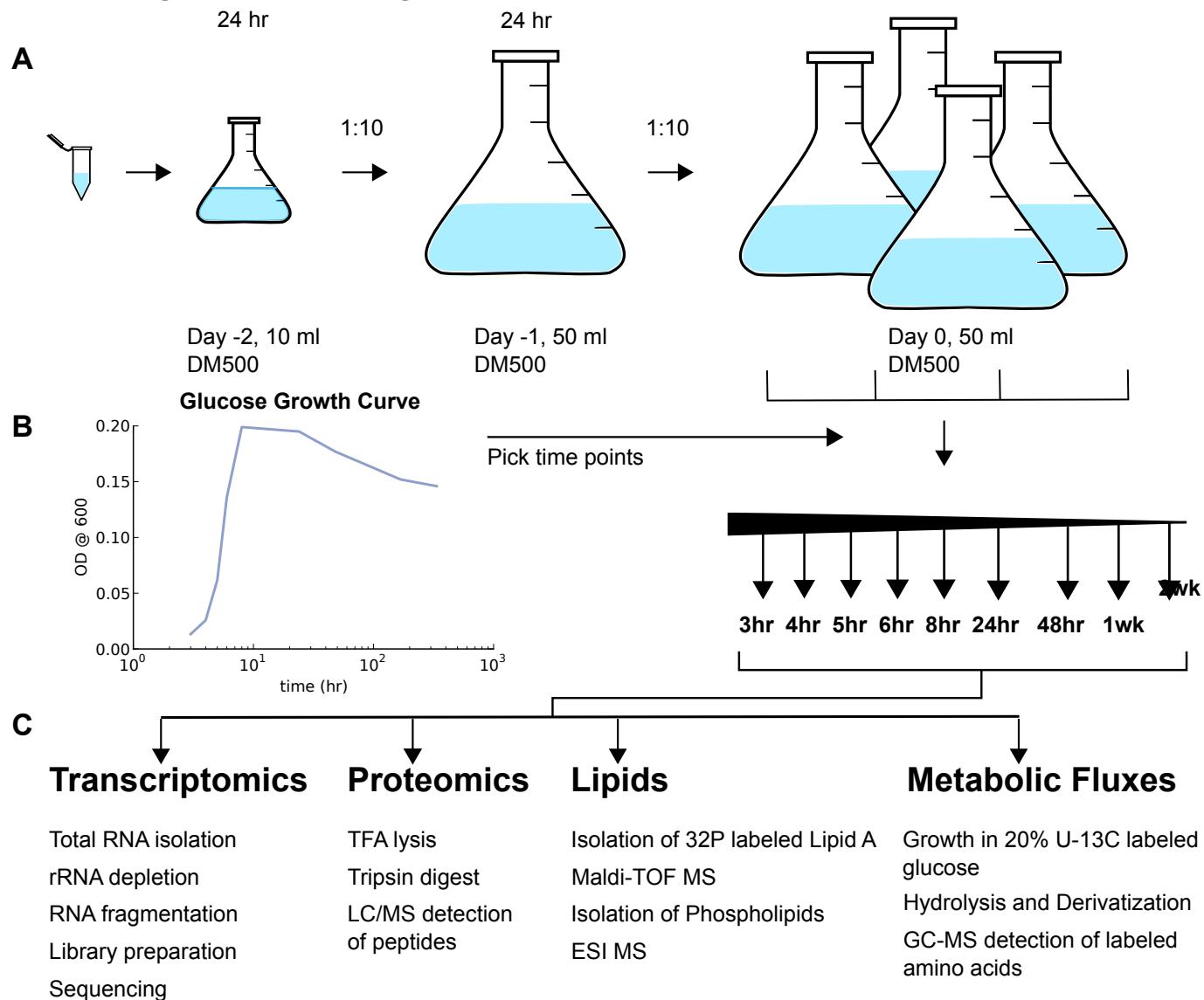


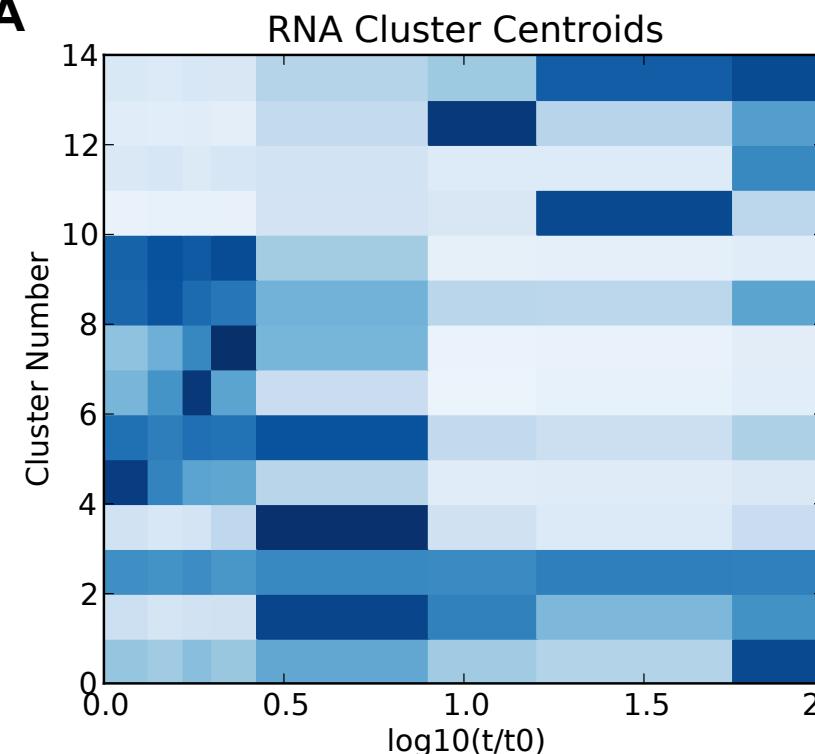
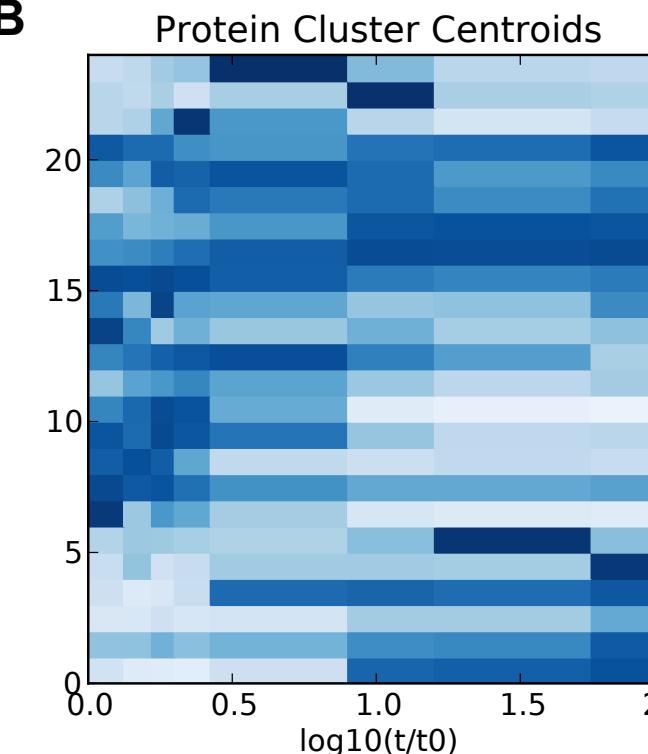
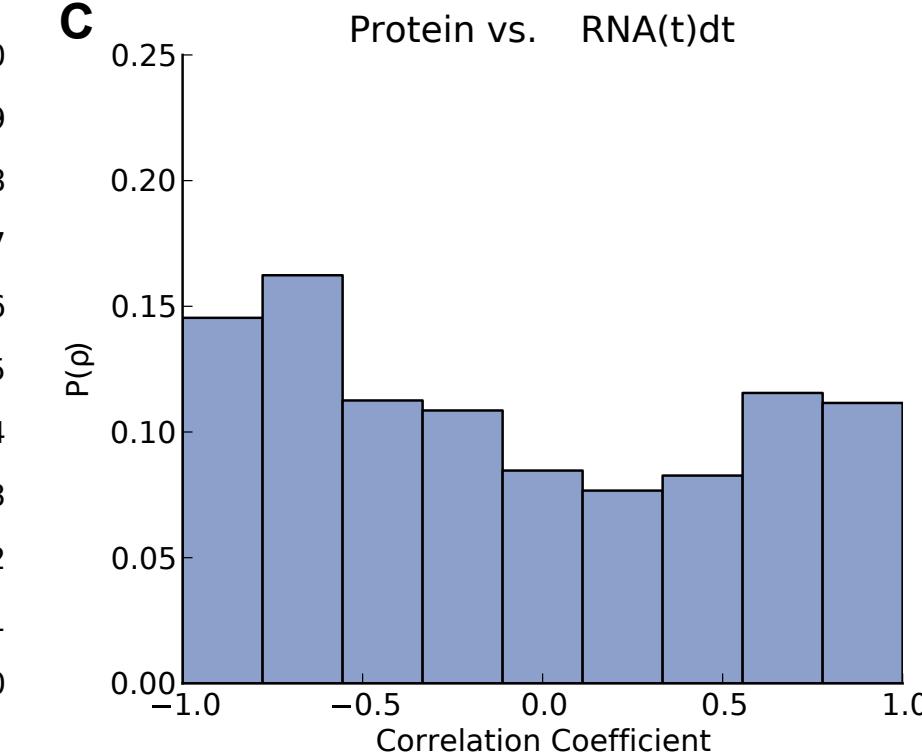
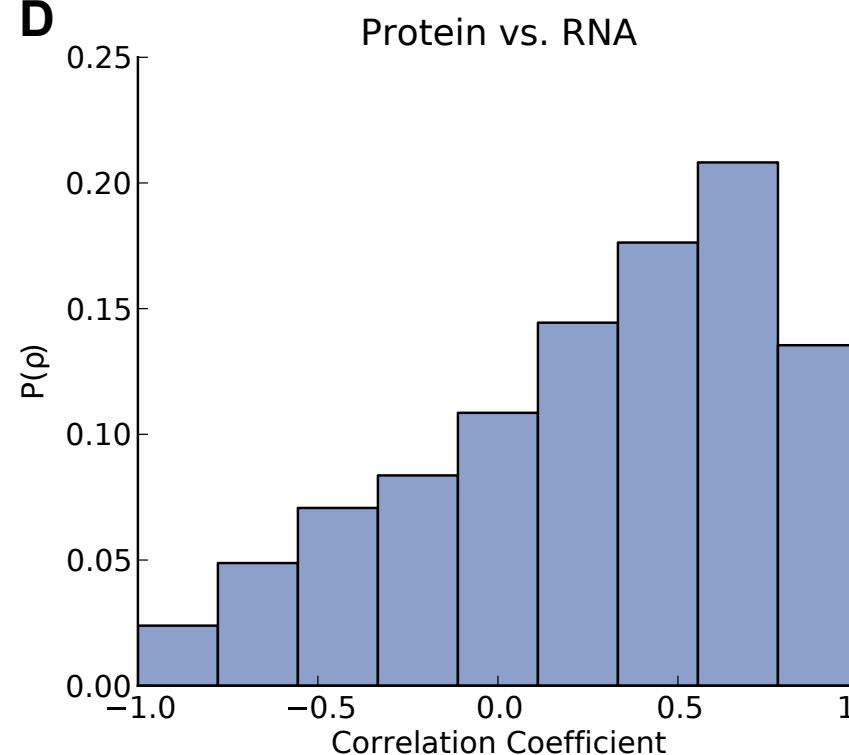
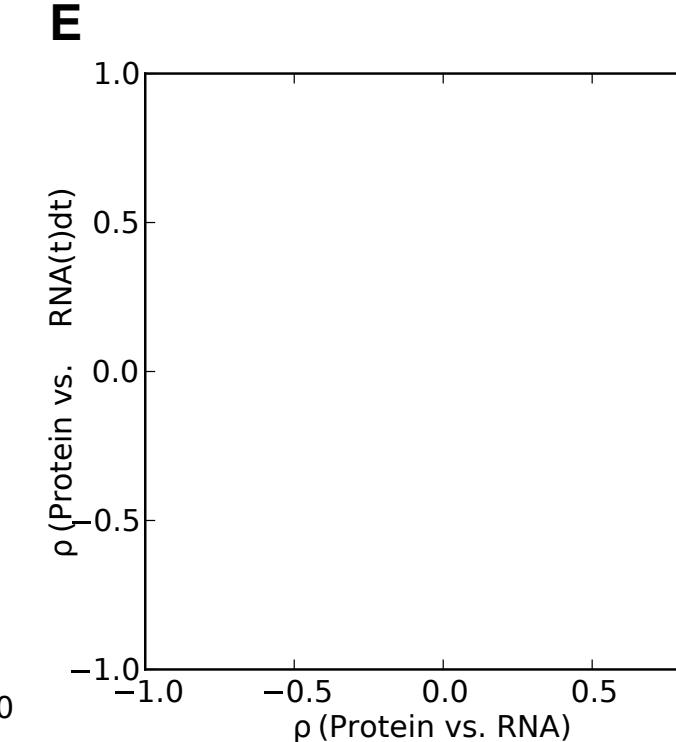
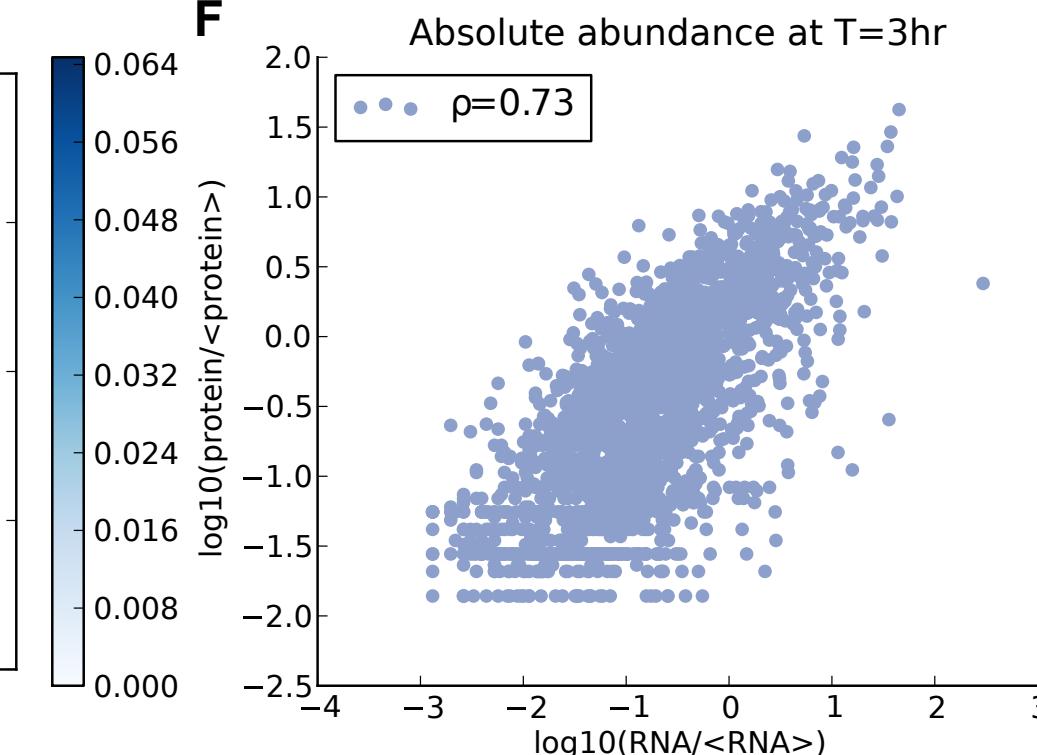
Figure 2**A****B****C****D****E****F**

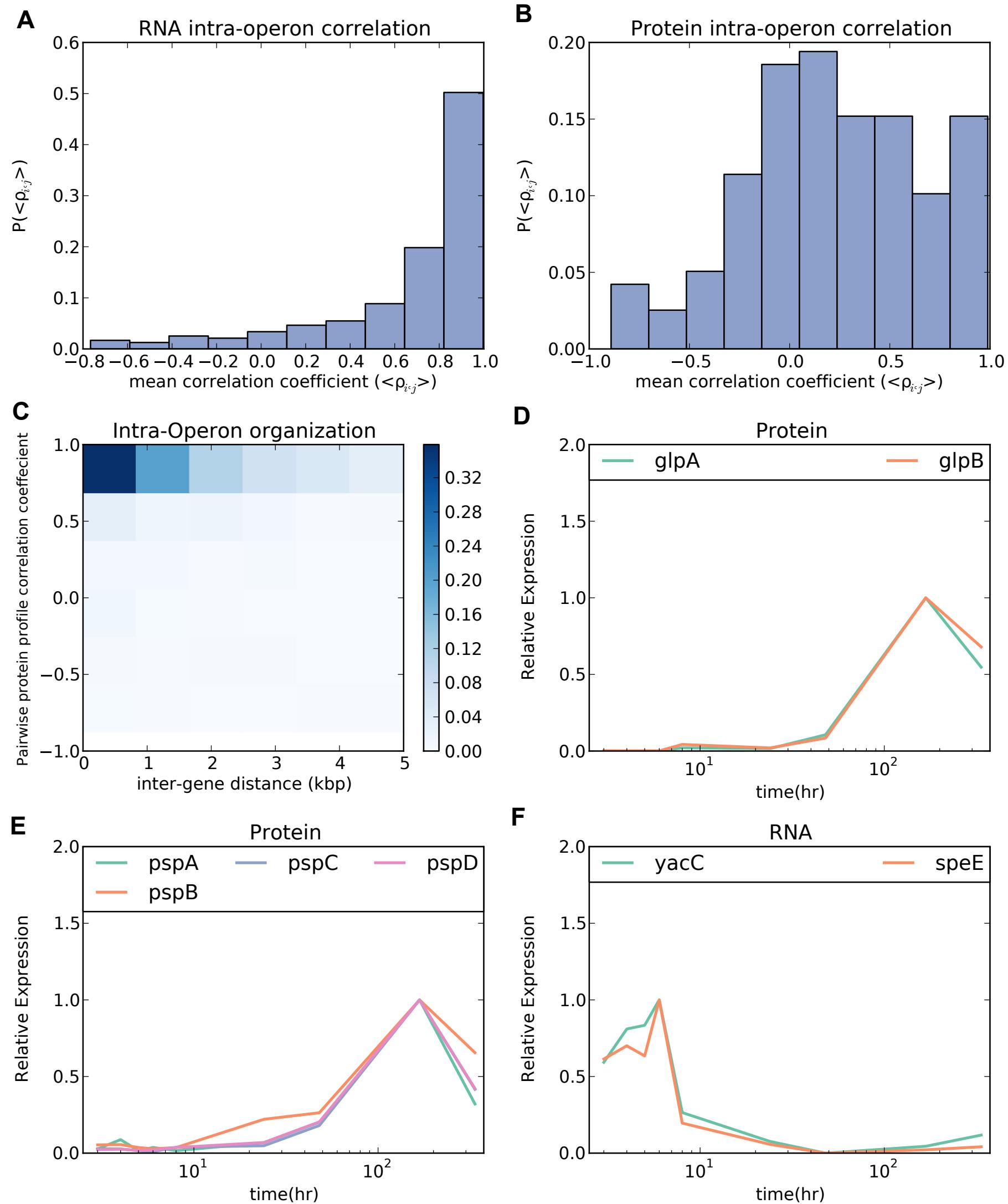
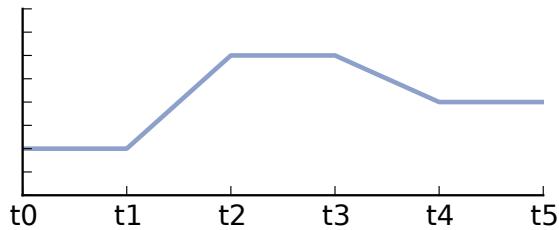
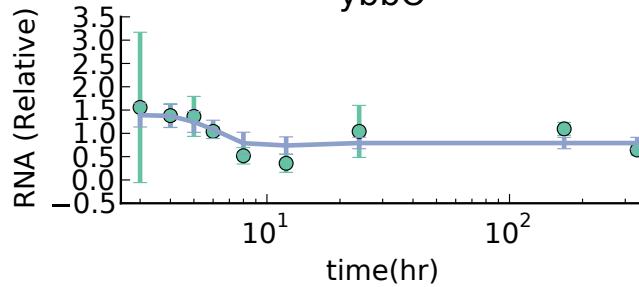
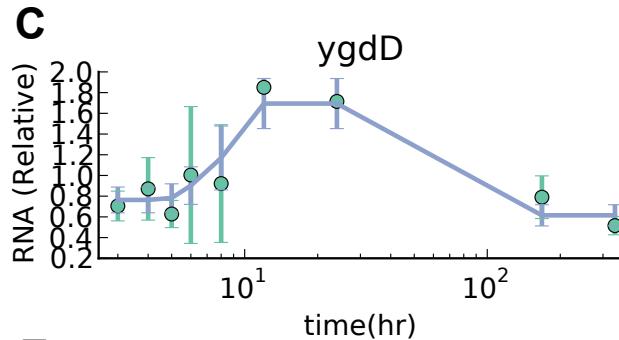
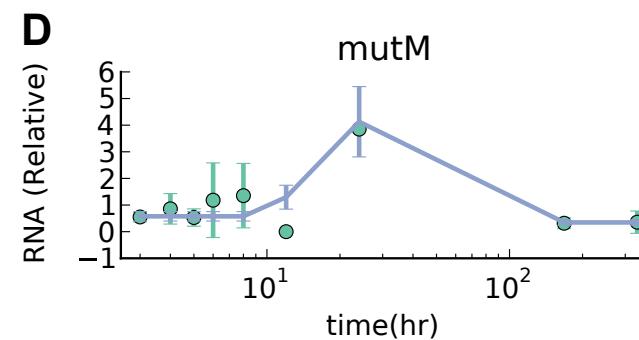
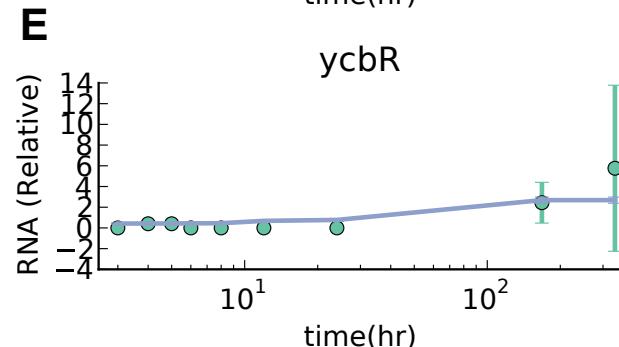
Figure 3

Figure 4

A

Function to Fit

**B***ybbO***C***ygdD***D***mutM***E***ycbR***F**

Time to First Inflection

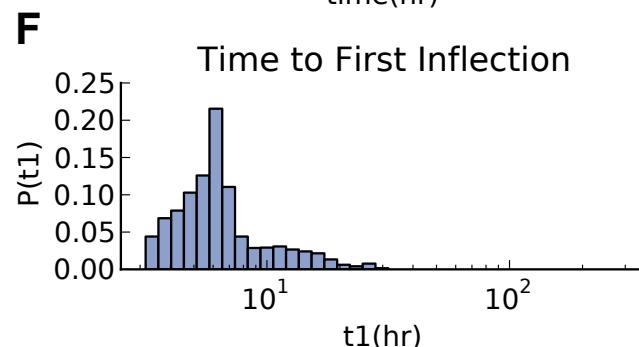


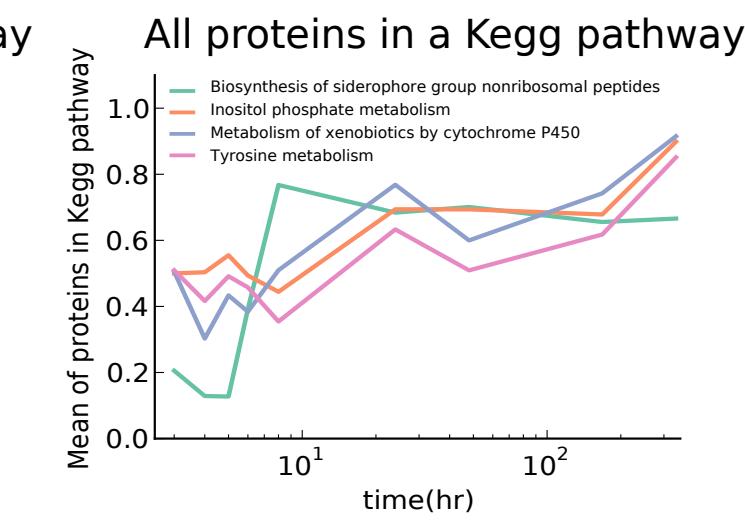
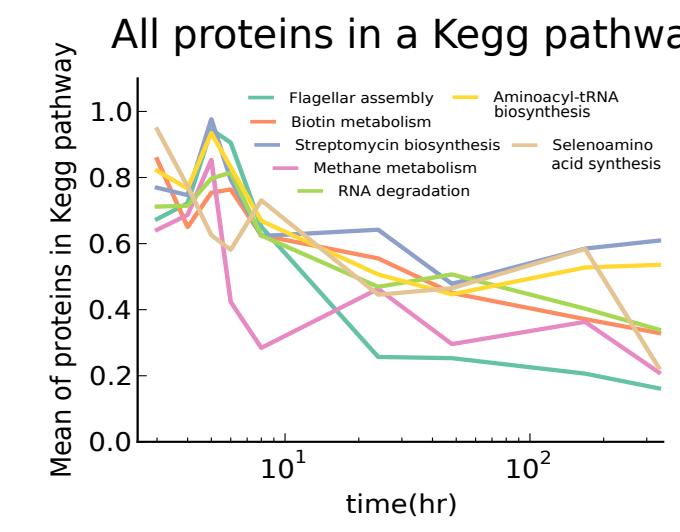
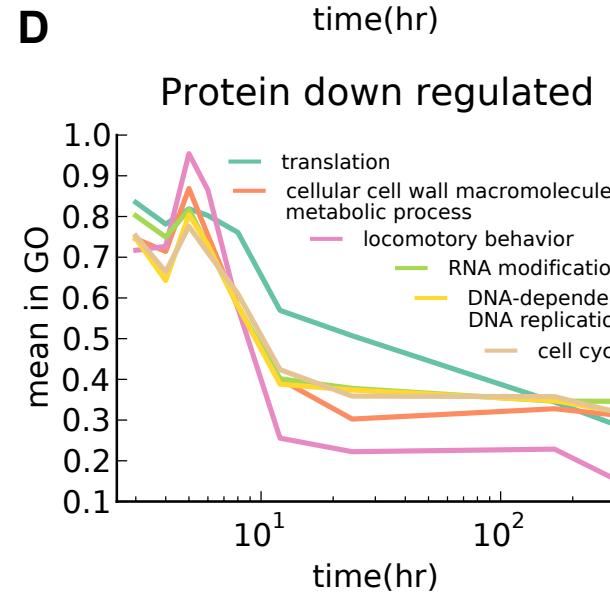
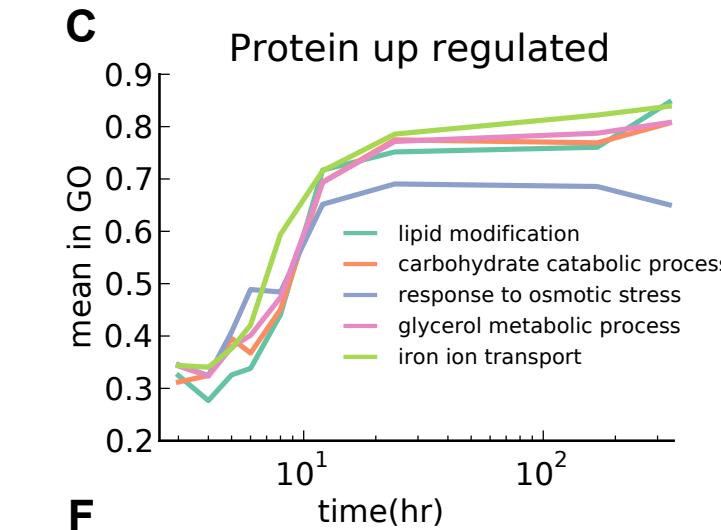
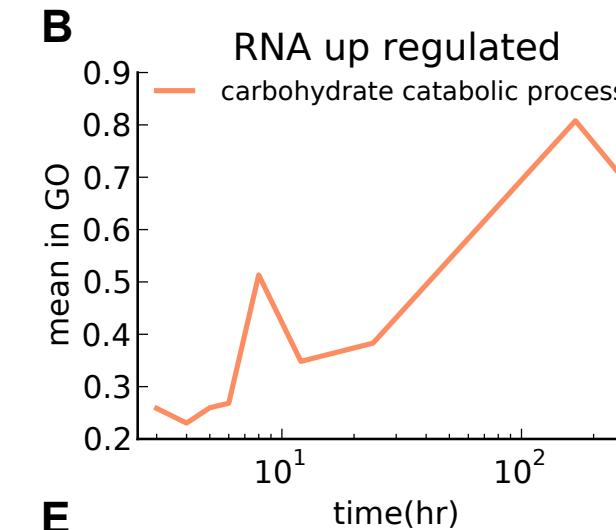
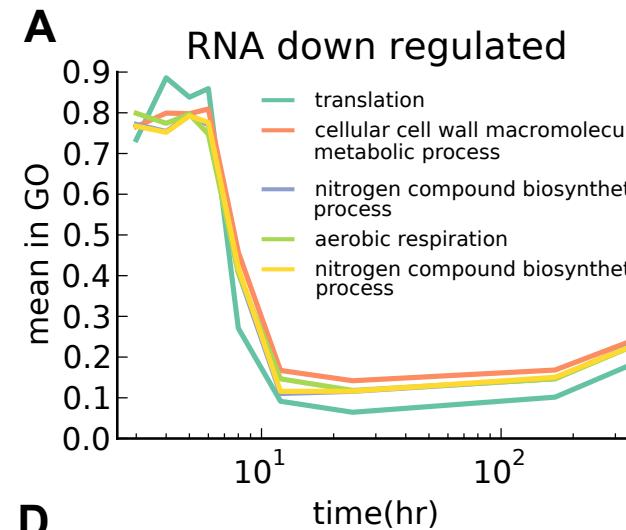
Figure 5

Figure 6

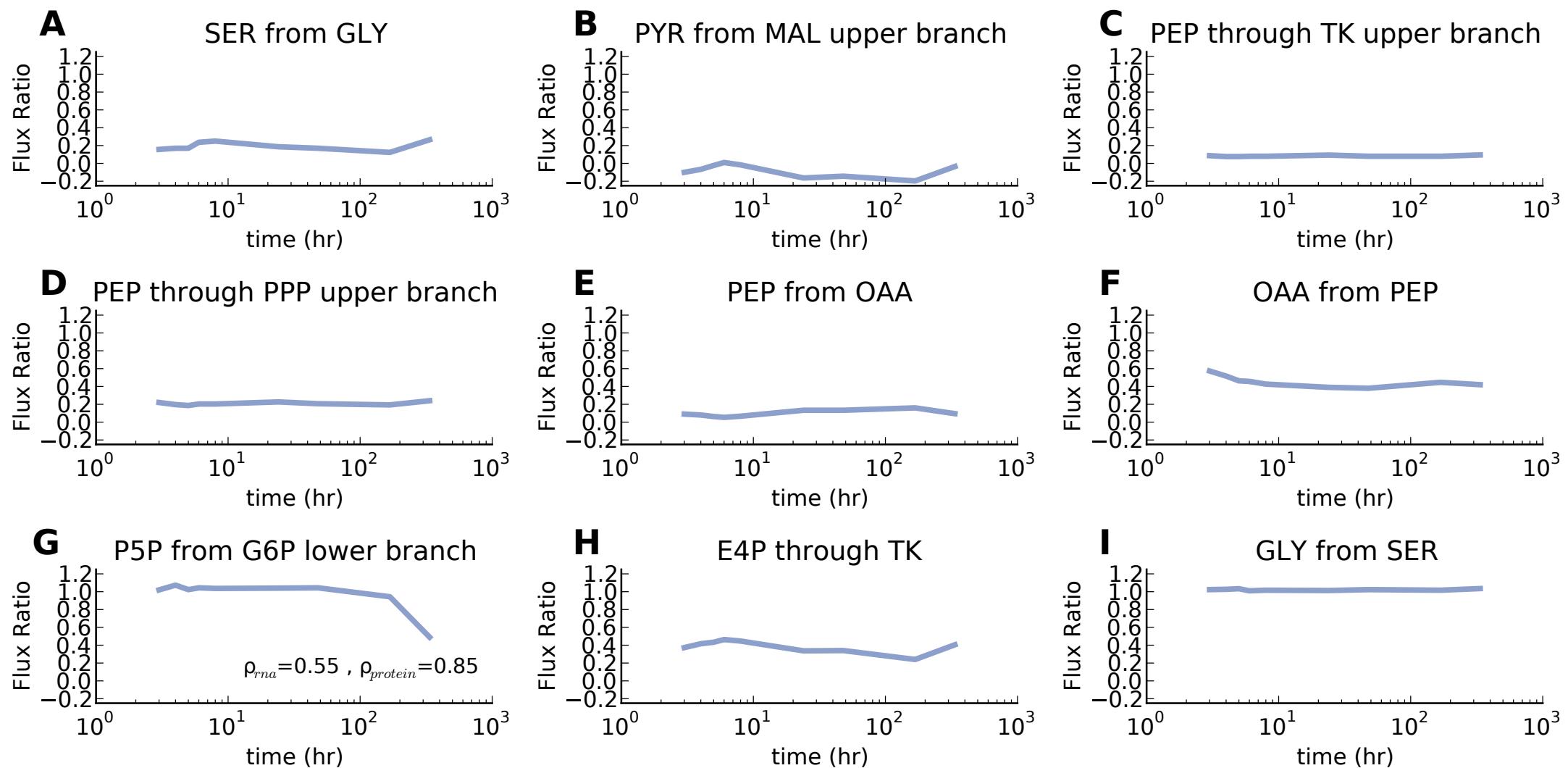
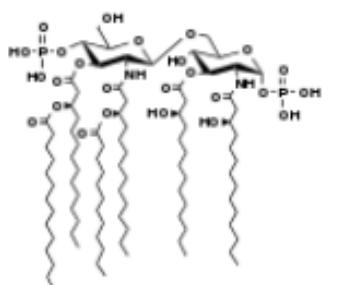
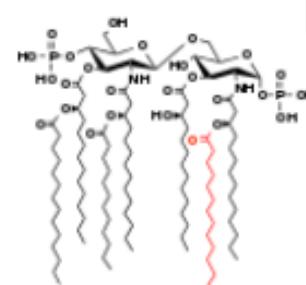


Figure 8

A

Exact mass: 1797.2



Exact mass: 2035.5

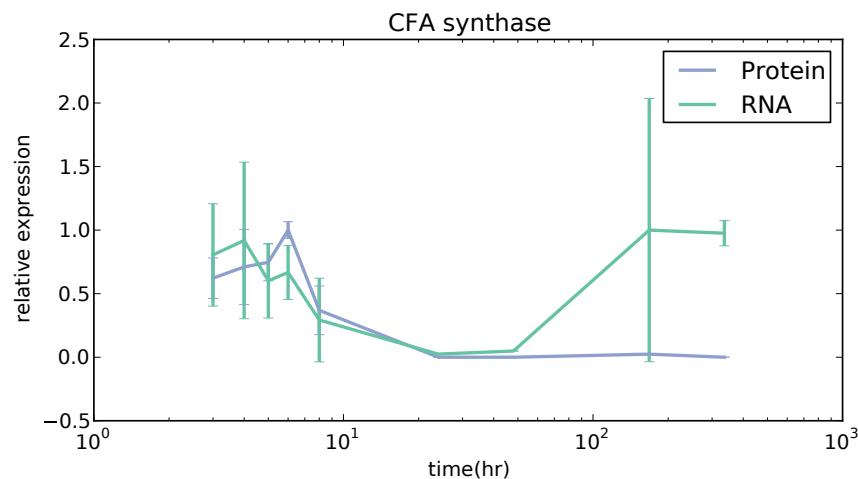
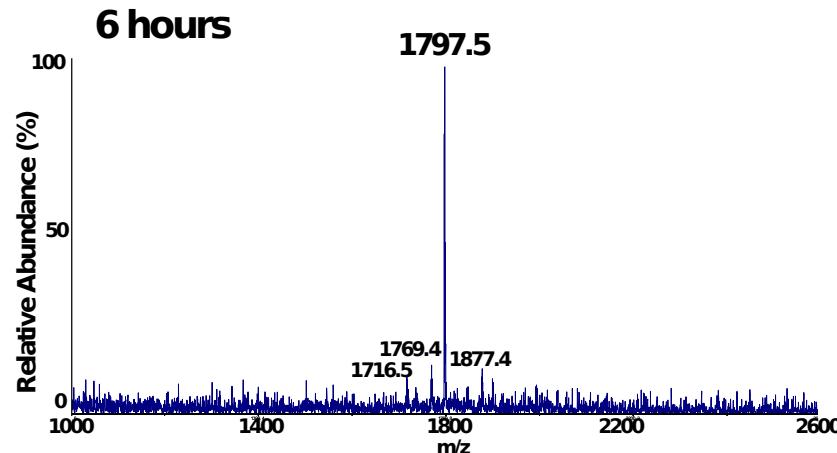
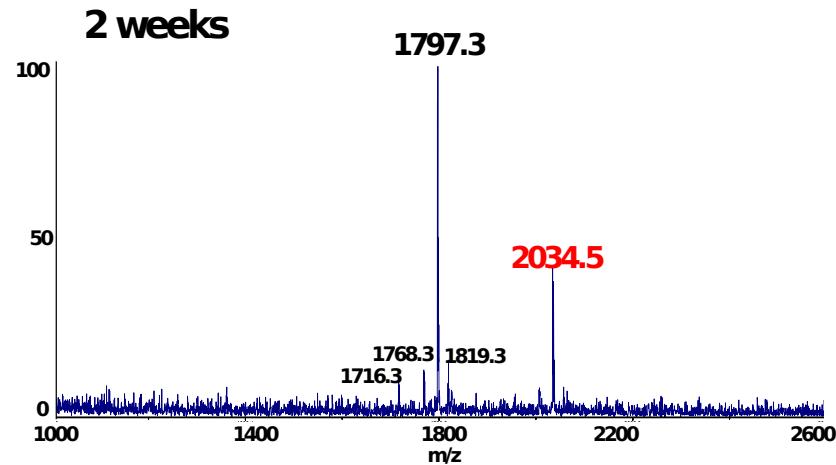
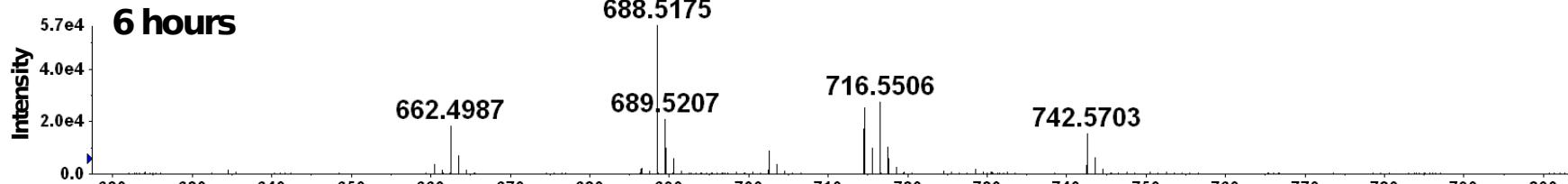
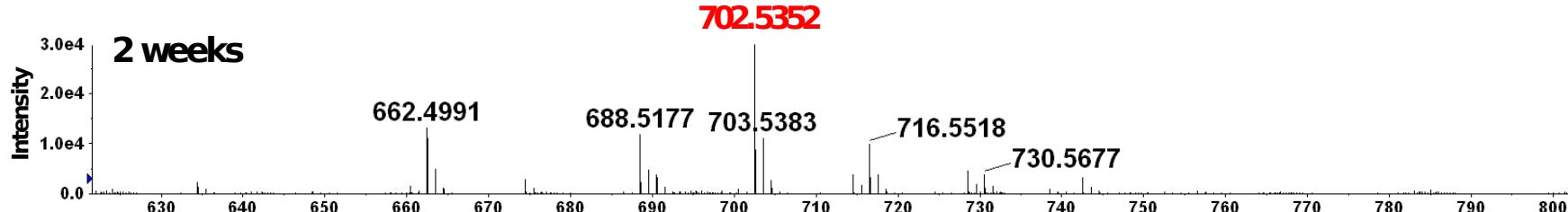
B**C****2 weeks****D****2 weeks**

Table 1

Publication	N proteins found	Cutoff	Method	#RNAs	Cutoff	Method
This study	2648 *(at 3hrs)	FDR<1%	Shotgun MS	4116 genes, 89 sRNA, 85 tRNA (at 3hrs)	?	RNA-seq
Yoon et al. 2012	60	fold change>2	2-D gel	4144 gene probes (REL606 strain)	NA	Microarray
Taniguchi et al.i 2012	1018	NA	YFP fusion	137	95% confidence	FISH
Lewis et al. 2010	~1,000	P-value<0.05	Shotgun MS			
Lewis et al. 2009				4428 gene probes	NA	Microarray
Soares et al. 2013	2053*	FDR<1%	SILAC			
Wisniewski and Rakus, 2014	2200	FDR<1%	FASP			
Raghavan et al. 2011				Genes: 4161, 133 sRNA	%region mapped ≥50%	RNA-seq

*The criteria that Soares et al. use for a protein being observed is that it appear in at least 1 of 2 biological repeats. We use a criteria that it appear in 1 of 3 biological repeats.

Figure 1- supplemental figure 1

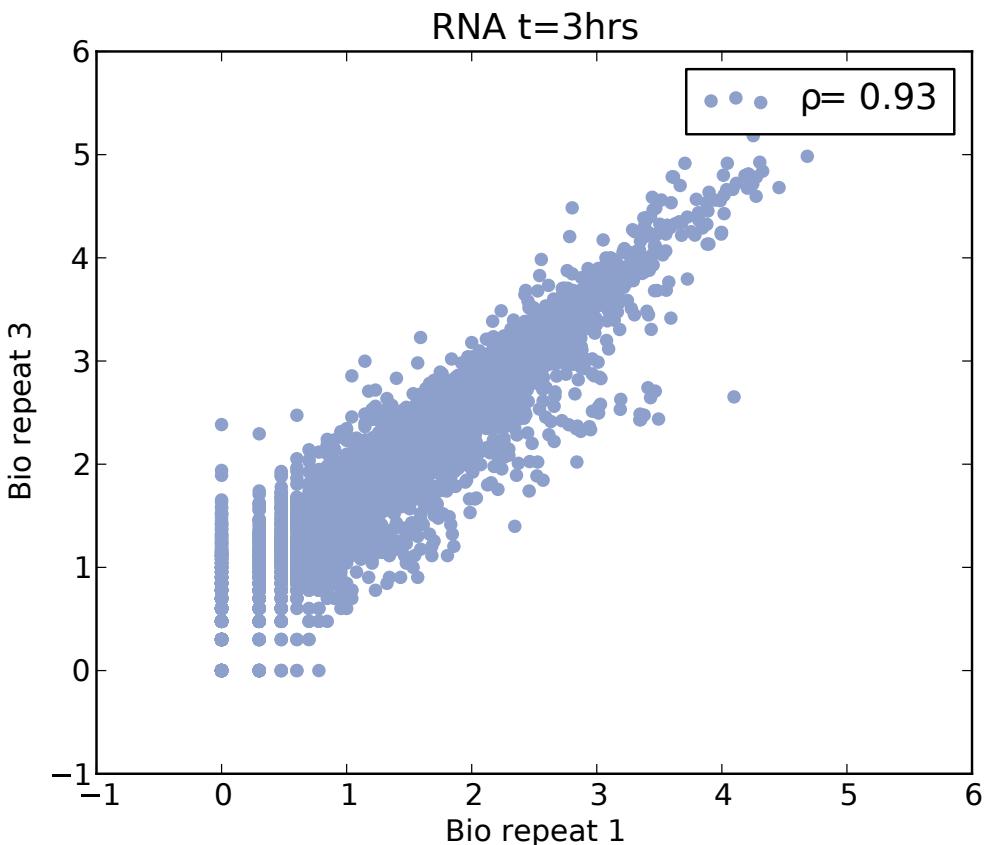
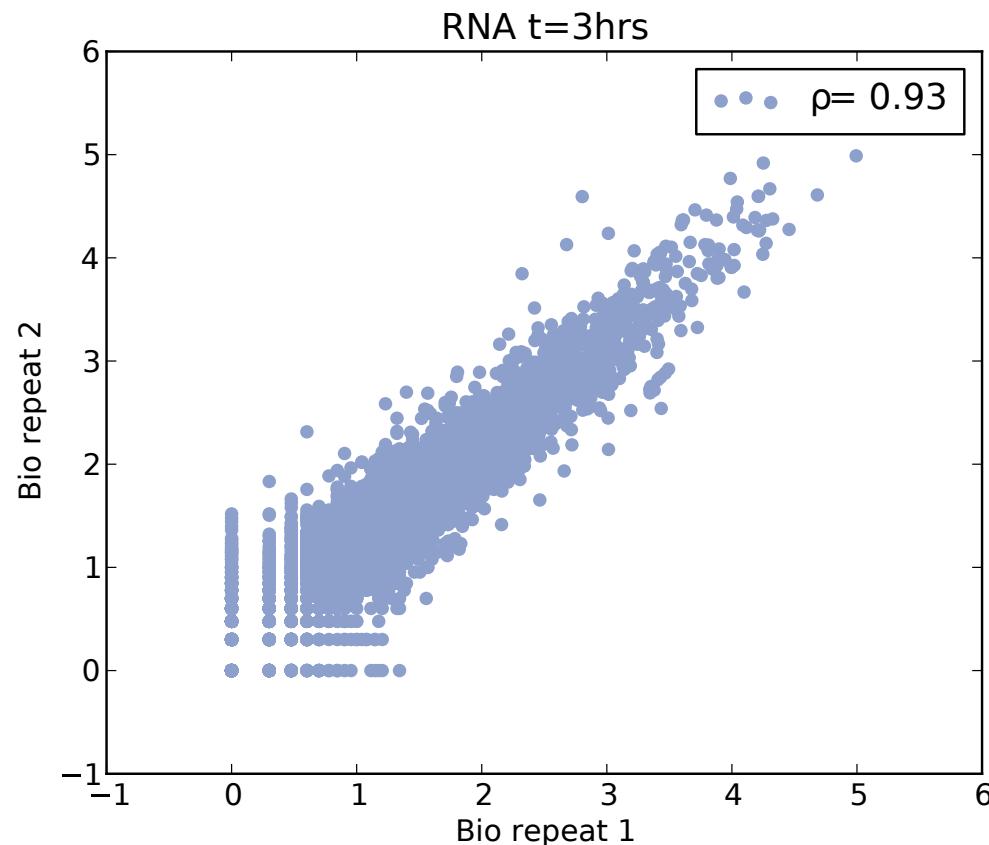
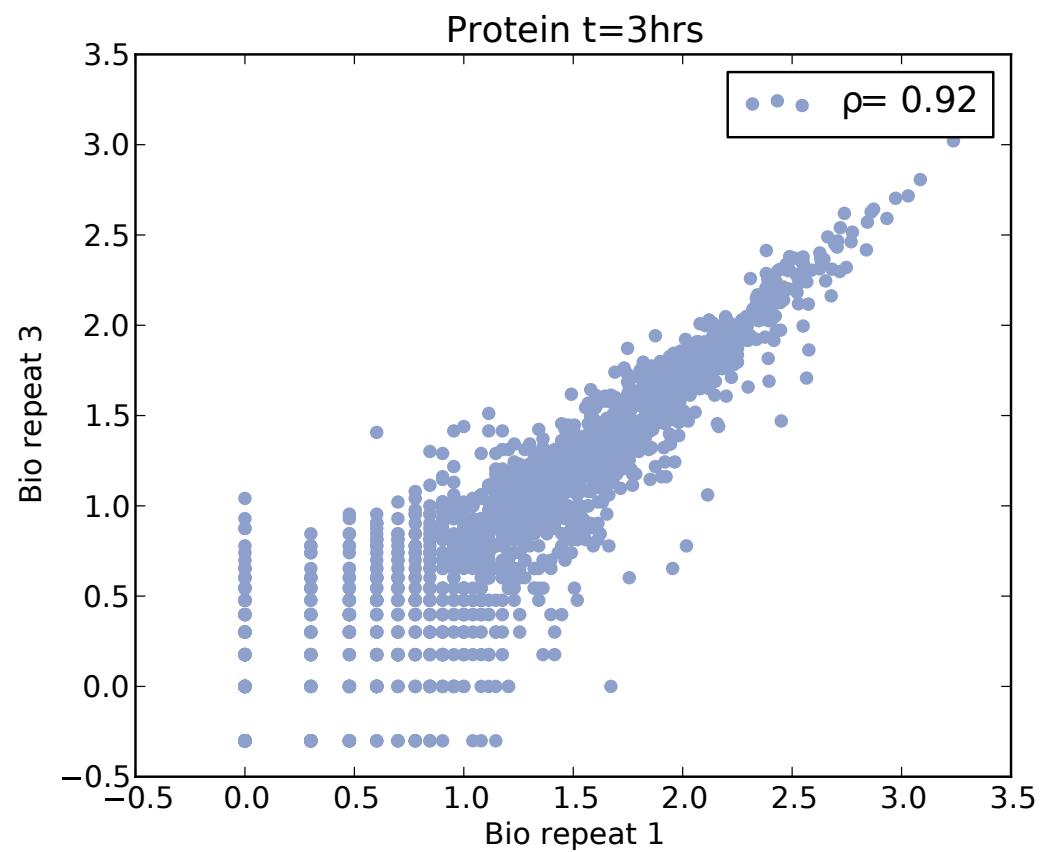
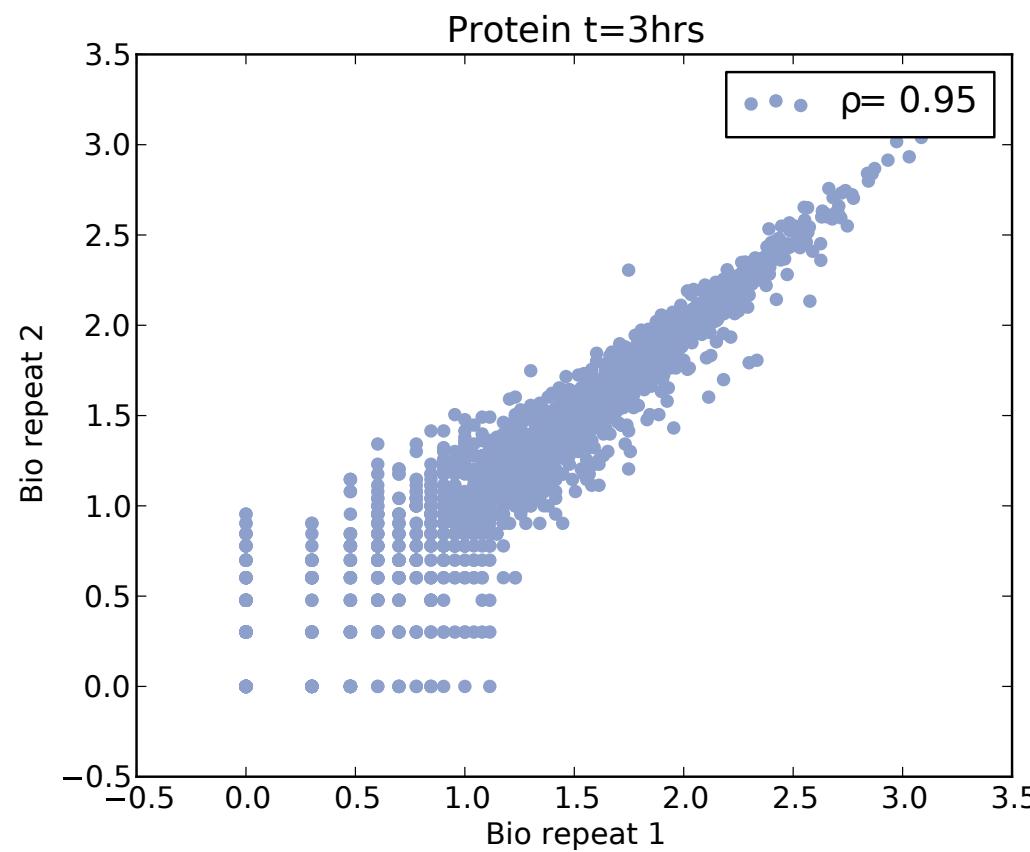


Figure 2 - supplemental figure 1

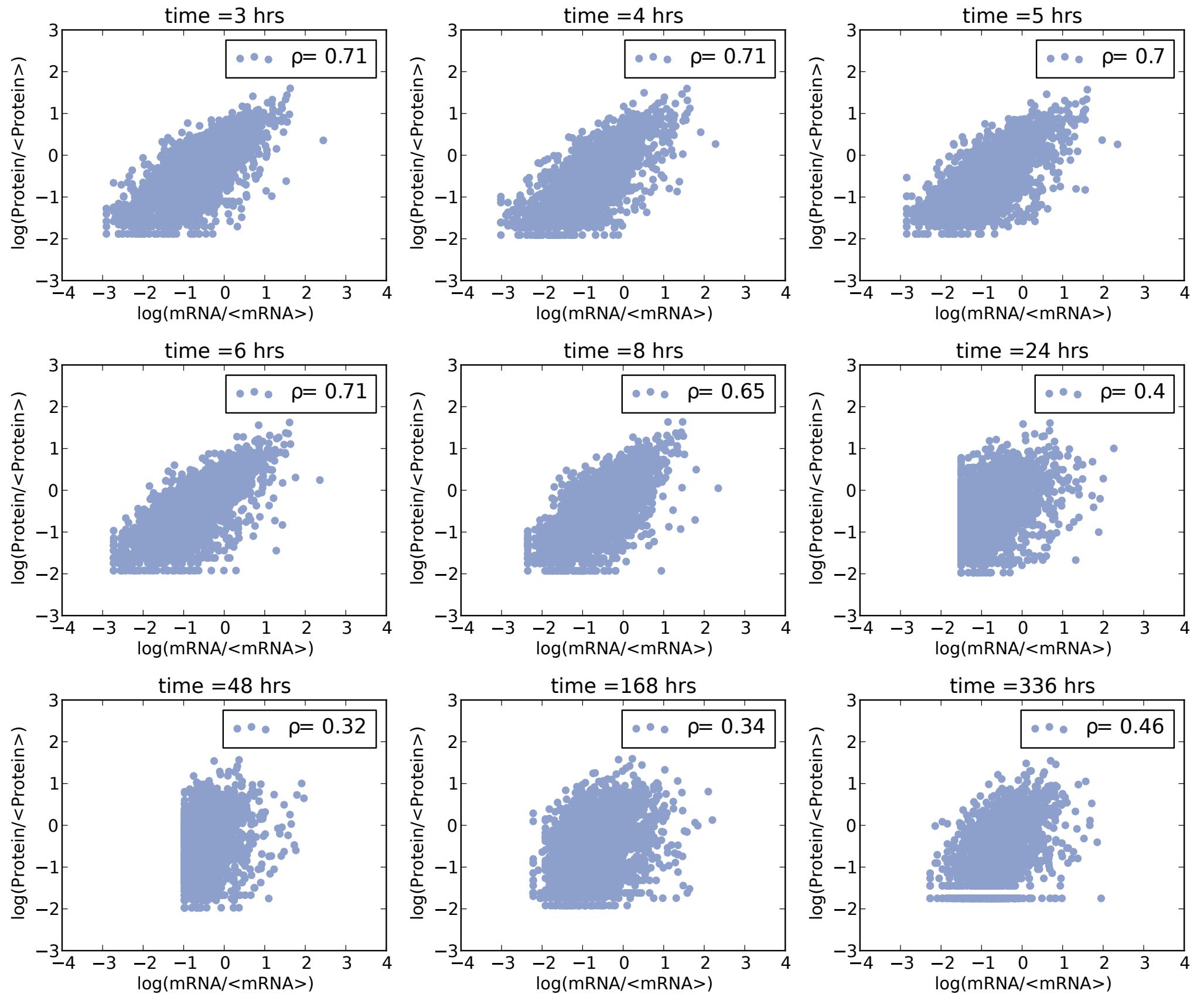
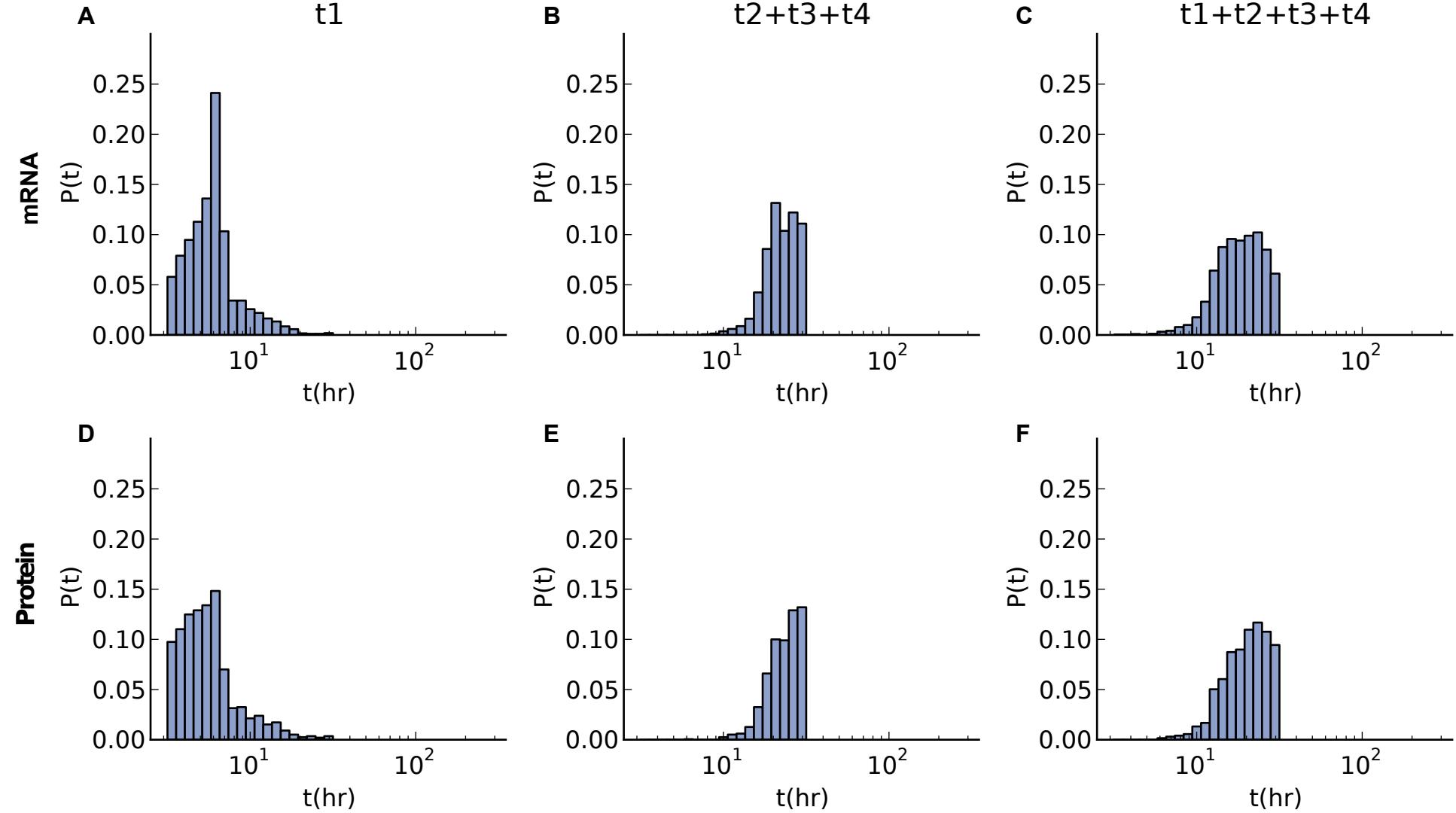


Figure 4- supplemental figure 1



Proportionally controlled proteins	
Enrichment Score: 15.722412271963268	
Term	FDR
GO:0018198~peptidyl-cysteine modification	3.219E-13
GO:0018197~peptidyl-aspartic acid modification	3.219E-13
GO:0018339~peptidyl-L-beta-methylthioaspartic acid biosynthetic process from peptidyl-aspartic acid	3.219E-13
Enrichment Score: 5.177276313087028	
Term	FDR
GO:0044271~nitrogen compound biosynthetic process	0.00
GO:0046394~carboxylic acid biosynthetic process	0.01
GO:0016053~organic acid biosynthetic process	0.01
GO:0009309~amine biosynthetic process	0.02
GO:0008652~cellular amino acid biosynthetic process	0.05
Enrichment Score: 5.0019785746451575	
Term	FDR
GO:0007049~cell cycle	0.00
GO:0051301~cell division	0.02
GO:0007059~chromosome segregation	0.15
Enrichment Score: 3.7902178093615957	
Term	FDR
GO:0042330~taxis	4.03E-4
GO:0007610~behavior	4.03E-4
GO:0007626~locomotory behavior	4.03E-4
GO:0048870~cell motility	0.20
GO:0001539~ciliary or flagellar motility	0.20
GO:0051674~localization of cell	0.20
GO:0006928~cell motion	0.22
GO:0043064~flagellum organization	4.11
GO:0030030~cell projection organization	10.53
GO:0009296~flagellum assembly	73.89
GO:0030031~cell projection assembly	90.39
Enrichment Score: 3.136632364510789	
Term	FDR
GO:0006790~sulfur metabolic process	0.04
GO:0009070~serine family amino acid biosynthetic process	0.29
GO:0044272~sulfur compound biosynthetic process	0.56
GO:0009069~serine family amino acid metabolic process	0.70
GO:0000097~sulfur amino acid biosynthetic process	0.91
GO:0000096~sulfur amino acid metabolic process	2.11
GO:0019344~cysteine biosynthetic process	8.05
GO:0006534~cysteine metabolic process	22.87
Enrichment Score: 2.968167724937097	
Term	FDR
GO:0006418~tRNA aminoacylation for protein translation	0.02
GO:0043038~amino acid activation	0.02
GO:0043039~tRNA aminoacylation	0.02
GO:0006399~tRNA metabolic process	0.04
GO:0034660~ncRNA metabolic process	0.14
GO:0009451~RNA modification	2.42
GO:0006400~tRNA modification	53.53
GO:0008033~tRNA processing	87.59
GO:0034470~ncRNA processing	87.90
GO:0006396~RNA processing	89.71

Integrally controlled proteins	
Enrichment Score: 3.2079342112759694	
Term	FDR
GO:0006071~glycerol metabolic process	8.67E-05
GO:0019400~alditol metabolic process	2.08E-03
GO:0019751~polyol metabolic process	2.26E-03
GO:0006072~glycerol-3-phosphate metabolic process	3.83E-01
GO:0045333~cellular respiration	4.55E+01
GO:0019637~organophosphate metabolic process	7.43E+01
GO:0006796~phosphate metabolic process	9.95E+01
GO:0006793~phosphorus metabolic process	9.98E+01

Com	Entrez ID	Gene Name	Prediction	Sorted Category
ispD	948269	2-C-methyl-D-erythritol 4-phosphate cytidyltransferase		Temporarily Up Regulated
dxr	945019	1-deoxy-D-xylulose 5-phosphate reductoisomerase		Down Regulated
rbsB	948261	D-ribose-binding periplasmic protein		Up Regulated
rbsC	948262	Ribose transport system permease protein rbsC		Ambiguous/Unsorted
vieP	948263	Uncharacterized HTH-type transcriptional regulator vieP	[]	Down Regulated
fucU	945842	L-fucose mutarotase		Up Regulated
hemE	945017	Delta-aminolevulinic acid dehydratase		Ambiguous/Unsorted
tonB	945843	Protein tonB		Ambiguous/Unsorted
rbsA	948264	Ribose import ATP-binding protein rbsA; Ribose import ATP-binding protein rbsA 1		Ambiguous/Unsorted
rluB	945840	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase B		Down Regulated
rbsR	948266	Ribose operon repressor		Down Regulated
kch	945841	Putative potassium channel protein		Ambiguous/Unsorted
rbsD	948267	D-ribose pyranase		Ambiguous/Unsorted
dnaC	948864	DNA replication protein dnaC		Ambiguous/Unsorted
ydcl	948865	Uncharacterized HTH-type transcriptional regulator ydcl	["Transcription", " RNA related", " Type of regulation", " Genetic unit regulated", "transcription", "regulation of transcription DNA dependent"]	Down Regulated
btuR	945839	Cob(I)yrinic acid a,c-diamide adenosyltransferase		Ambiguous/Unsorted
hsdS	948867	Type-1 restriction enzyme EcoKI specificity protein		Down Regulated
adhE	945837	Aldehyde-alcohol dehydrogenase		Down Regulated
rbsK	948260	Ribokinase		Ambiguous/Unsorted
nadC	948869	Nicotinate-nucleotide pyrophosphorylase [carboxylating]		Ambiguous/Unsorted
ychE	945836	UPF0056 membrane protein yhcE		Temporarily Up Regulated
dosC	945835	Diguanilate cyclase yddV		Up Regulated
yddV	945835	Diguanilate cyclase yddV		Up Regulated
tauD	945021	Alpha-ketoglutarate-dependent taurine dioxygenase		Down Regulated
dinI	945022	DNA-damage-inducible protein I		Down Regulated
yccK	945023	Sulfurtransferase tusE		Ambiguous/Unsorted
mutH	947299	DNA mismatch repair protein mutH		Up Regulated
yeL	948272	Uncharacterized protein yeL	["Carbohydrate transport and metabolism"]	Temporarily Up Regulated
yahF	947298	Uncharacterized protein yahF	["Amino acid transport and metabolism", " Carbon compound utilization", "amino acid metabolic process"]	Temporarily Up Regulated
tdk	945834	Thymidine kinase		Ambiguous/Unsorted
ilvE	948278	Branched-chain-amino-acid aminotransferase		Ambiguous/Unsorted
smpE	947296	SsrA-binding protein		Down Regulated
ilvM	948279	Acetolactate synthase isozyme 2 small subunit		Down Regulated
amiC	947293	N-acetylmuramoyl-L-alanine amidase amiC		Down Regulated
tauB	945027	Taurine import ATP-binding protein tauB		Ambiguous/Unsorted
recC	947294	Exodeoxyribonuclease V gamma chain		Down Regulated
hns	945829	DNA-binding protein H-NS		Up Regulated
ylaC	948876	Inner membrane protein ylaC		Down Regulated
ygdL	947291	Uncharacterized protein ygdL	[]	Down Regulated
csdL	947291	Uncharacterized protein ygdL		Down Regulated
ychJ	945828	UPF0225 protein ychJ		Down Regulated
ampD	948877	1,6-anhydro-N-acetylmuramyl-L-alanine amidase ampD		Temporarily Up Regulated
arcA	948874	Aerobic respiration control protein arcA		Ambiguous/Unsorted
hsdR	948878	Type I restriction enzyme EcoKI R protein		Down Regulated
ygeW	945826	Uncharacterized protein ygeW	[" Central intermediary metabolism"]	Temporarily Down Regulated
hsdM	948872	Type I restriction enzyme EcoKI M protein		Down Regulated
rstB	948870	Sensor protein; Sensor protein rstB		Down Regulated
tauA	945030	Taurine-binding periplasmic protein		Down Regulated
atpF	948247	ATP synthase subunit b; ATP synthase B chain		Up Regulated
yail	945033	UPF0178 protein yail		Temporarily Up Regulated
mnm	948248	tRNA uridine 5-carboxymethylaminomethyl modification enzyme mnmG		Down Regulated
aroL	945031	Shikimate kinase 2		Ambiguous/Unsorted
mioC	948249	Protein mioC		Ambiguous/Unsorted
rlmM	947283	UTI89_C3178; b2806; ECIAI39_3228; ECIAI1_2916; Z4123; c3376; ECED1_3259; ECUMN_3135; E2348C_3073; APEC01_3725; ECS88_3075; EC55989_3085; ECDH10B_2975		Down Regulated
ygdE	947283	UTI89_C3178; b2806; ECIAI39_3228; ECIAI1_2916; Z4123; c3376; ECED1_3259; ECUMN_3135; E2348C_3073; APEC01_3725; ECS88_3075; EC55989_3085; ECDH10B_2975		Down Regulated
atpD	948244	ATP synthase subunit beta		Up Regulated
yaiW	945038	Uncharacterized protein yaiW	[" Carbon compound utilization", " RNA related", " Type of regulation", " Genetic unit regulated", "transcription", "regulation of transcription"]	Temporarily Up Regulated
ptrA	947284	Protease 3		Ambiguous/Unsorted
suhB	947285	Inositol-1-monophosphatase		Temporarily Down Regulated
recB	947286	Exodeoxyribonuclease V beta chain		Up Regulated
RecD	947287	Exodeoxyribonuclease V alpha chain		Down Regulated
pstB	948240	Phosphate import ATP-binding protein pstB		Ambiguous/Unsorted
oppB	945823	Oligopeptide transport system permease protein oppB		Down Regulated
cls	945821	Cardiolipin synthetase		Up Regulated

argA	947289 Amino-acid acetyltransferase		Ambiguous/Unsorted
rsmE	945816 Ribosomal RNA small subunit methyltransferase E		Ambiguous/Unsorted
Dos	945815 Heme-regulated cyclic di-GMP, cyclic AMP phosphodiesterase,		Ambiguous/Unsorted
dosP	945815 Heme-regulated cyclic di-GMP, cyclic AMP phosphodiesterase,		Ambiguous/Unsorted
ygiT	945814 Uncharacterized HTH-type transcriptional regulator ygiT	['Carbon compound utilization', 'metabolic process']	Up Regulated
mqsA	945814 Uncharacterized HTH-type transcriptional regulator ygiT		Up Regulated
flgD	945813 Basal-body rod modification protein flgD		Ambiguous/Unsorted
oppF	945818 Oligopeptide transport ATP-binding protein oppF		Ambiguous/Unsorted
flhC	947280 Flagellar transcriptional activator flhC		Down Regulated
sgcX	948840 Putative sgc region protein sgcX		Up Regulated
psiF	945040 Phosphate starvation-inducible protein psiF		Up Regulated
phoA	945041 Alkaline phosphatase		Ambiguous/Unsorted
yaiA	945043 Uncharacterized protein yaiA	['Amino acid transport and metabolism', 'Building block biosynthesis', 'aromatic amino acid family biosynthetic process']	Up Regulated
asnA	948258 Aspartate--ammonia ligase		Ambiguous/Unsorted
phoR	945044 Sensor protein: Phosphate regulon sensor protein phoR		Ambiguous/Unsorted
aroM	945045 Protein aroM		Down Regulated
asnC	948259 Asparaginyl-tRNA synthetase; Regulatory protein asnC		Down Regulated
ravA	948256 ATPase ravA		Temporarily Down Regulated
phoB	945046 Phosphate regulon transcriptional regulatory protein phoB		Temporarily Up Regulated
csdE	947274 Uncharacterized sufE-like protein ygdK		Ambiguous/Unsorted
yaiE	945048 UPF0345 protein yaiE		Down Regulated
syd	947271 Protein syd		Down Regulated
sbcD	945049 Nuclease sbcCD subunit D		Temporarily Up Regulated
kup	948255 Low affinity potassium transport system protein kup		Ambiguous/Unsorted
atpB	948252 ATP synthase subunit a		Down Regulated
gcvA	947278 Glycine cleavage system transcriptional activator		Temporarily Up Regulated
ygdI	947276 Uncharacterized lipoprotein ygdI	['Carbon compound utilization', 'RNA related', 'Type of regulation', 'Genetic unit regulated']	Up Regulated
uxuR	948849 Uxu operon transcriptional regulator		Temporarily Up Regulated
oppD	945802 Oligopeptide transport ATP-binding protein oppD		Ambiguous/Unsorted
ycgN	945804 UPF0260 protein ycgN		Down Regulated
glcB	948857 Malate synthase G		Up Regulated
narJ	945807 Respiratory nitrate reductase 1 delta chain		Up Regulated
gudP	947265 Probable glucarate transporter		Temporarily Down Regulated
ilvH	947267 Acetolactate synthase isozyme 3 small subunit		Ambiguous/Unsorted
tnaB	948220 Low affinity tryptophan permease		Temporarily Up Regulated
mmr	948222 tRNA modification GTPase mmrE		Temporarily Down Regulated
rumB	947260 23S rRNA (uracil-5-)methyltransferase rumB		Ambiguous/Unsorted
wrbA	947263 Flavoprotein wrbA; Putative flavoprotein wrbA		Up Regulated
sdaB	947262 L-serine dehydratase 2		Up Regulated
yieE	948226 Uncharacterized protein yieE	['Amino acid transport and metabolism']	Temporarily Down Regulated
yieF	948225 Uncharacterized protein yieF		Up Regulated
yidZ	948227 HTH-type transcriptional regulator yidZ		Up Regulated
yieK	948229 Uncharacterized protein yieK	['Carbohydrate transport and metabolism']	Temporarily Up Regulated
ygdG	947256 Uncharacterized exonuclease xni		Temporarily Up Regulated
barA	947255 Sensor protein: Signal transduction histidine-protein kinase barA		Ambiguous/Unsorted
mazC	947254 Protein mazC		Down Regulated
pepN	947253 Aminopeptidase N		Ambiguous/Unsorted
mazF	947252 PemK-like protein 1		Temporarily Up Regulated
nhoA	947251 N-hydroxyamine O-acetyltransferase		Ambiguous/Unsorted
bglB	948234 6-phospho-beta-glucosidase bglB		Ambiguous/Unsorted
phoU	948233 Phosphate transport system protein phoU		Ambiguous/Unsorted
yieH	948232 Phosphatase yieH		Down Regulated
pstS	948237 Phosphate-binding protein pstS		Up Regulated
gudD	947258 Glucarate dehydratase		Ambiguous/Unsorted
qmcA	947257 Protein qmcA		Temporarily Up Regulated
ibpA	948200 Small heat shock protein ibpA		Down Regulated
CYBt	947241 Cytochrome b561		Down Regulated
ygcR	947240 Putative electron transfer flavoprotein subunit ygcR		Down Regulated
rumA	947243 23S rRNA (uracil-5-)methyltransferase rumA		Temporarily Down Regulated
mazE	947245 Peml-like protein 1		Ambiguous/Unsorted
reiA	947244 GTP pyrophosphokinase		Ambiguous/Unsorted
ybdK	947246 Carboxylate-amine ligase ybdK		Up Regulated
ygiC	947249 Uncharacterized protein ygiC	[]	Down Regulated
recF	948209 DNA replication and repair protein recF		Temporarily Up Regulated
ydcL	948203 Uncharacterized lipoprotein ydcL	['Amino acid transport and metabolism', 'amino acid transport']	Up Regulated

yjIA	948882	Uncharacterized GTP-binding protein yjIA	[]	Ambiguous/Unsorted
opgB	948888	Phosphoglycerol transferase I		Down Regulated
yjIA	948887	Uncharacterized protein yjIA	[]	Down Regulated
cusR	945003	Transcriptional regulatory protein cusR		Temporarily Down Regulated
yidB	948212	Uncharacterized protein yidB	[]	Up Regulated
pal	945004	Peptidoglycan-associated lipoprotein		Up Regulated
yegD	947234	Uncharacterized chaperone protein yegD	[]	Temporarily Up Regulated
lacI	945007	Lactose operon repressor		Ambiguous/Unsorted
lacZ	945006	Beta-galactosidase		Down Regulated
hisQ	947235	Histidine transport system permease protein hisQ		Down Regulated
dnaN	948218	DNA polymerase III subunit beta		Down Regulated
dnaA	948217	Chromosomal replication initiator protein dnaA		Up Regulated
rpmH	948216	60S ribosomal protein L34		Up Regulated
rnpA	948215	Ribonuclease P protein component		Temporarily Down Regulated
cynR	945001	HTH-type transcriptional regulator cynR		Up Regulated
cysJ	947239	Sulfite reductase [NADPH] flavoprotein alpha-component		Down Regulated
osmY	948895	Osmotically-inducible protein Y		Up Regulated
rml	948894	Ribosomal-protein-alanine acetyltransferase		Ambiguous/Unsorted
fhuF	948891	Ferric iron reductase protein fhuF		Temporarily Up Regulated
holD	948890	DNA polymerase III subunit psi		Temporarily Up Regulated
yjjG	948899	5'-nucleotidase yjjG		Down Regulated
mrr	948898	Mrr restriction system protein		Ambiguous/Unsorted
prfC	948897	Peptide chain release factor 3		Temporarily Down Regulated
lpp	946175	Major outer membrane lipoprotein		Up Regulated
entB	946178	Isochorismatase		Up Regulated
ydhR	946177	Putative monooxygenase ydhR		Down Regulated
ynhG	946174	Uncharacterized protein ynhG	[]	Ambiguous/Unsorted
slyA	946167	Transcriptional regulator slyA		Temporarily Down Regulated
plsX	946165	Fatty acid/phospholipid synthesis protein plsX		Ambiguous/Unsorted
pdxY	946162	Pyridoxamine kinase		Down Regulated
rsxG	946158	Electron transport complex protein rnfG		Ambiguous/Unsorted
rmt	946159	Ribonuclease T		Ambiguous/Unsorted
uidR	946150	HTH-type transcriptional regulator uidR		Down Regulated
cnu	946152	OriC-binding nucleoid-associated protein		Up Regulated
hdhA	946151	7-alpha-hydroxysteroid dehydrogenase		Down Regulated
lhr	946156	Probable ATP-dependent helicase lhr		Down Regulated
uidA	946149	Beta-glucuronidase		Ambiguous/Unsorted
fumC	946147	Fumarate hydratase class II		Temporarily Down Regulated
rsxB	946146	Electron transport complex protein rnfB		Down Regulated
topB	946141	DNA topoisomerase 3		Temporarily Up Regulated
ycel	946145	Protein ycel		Ambiguous/Unsorted
prtB	946144	NAD(P) transhydrogenase subunit beta		Ambiguous/Unsorted
fecC	948826	Fe(3+) dicarboxylate transport system permease protein fecC		Temporarily Up Regulated
fecE	948819	Fe(3+) dicarboxylate transport ATP-binding protein fecE		Up Regulated
yfcZ	948817	UPF0381 protein yfcZ		Up Regulated
sspA	944744	Stringent starvation protein A		Ambiguous/Unsorted
yigB	948802	Uncharacterized zinc-type alcohol dehydrogenase-like protein yigB	['Amino acid transport and metabolism', 'Carbon compound utilization', 'metabolic process']	Up Regulated
ydiI	946190	Esterase ydiI		Up Regulated
ybaQ	948800	Uncharacterized HTH-type transcriptional regulator ybaQ	['Energy production and conversion', 'Energy production transport', 'electron transport', 'amino acid metabolic process']	Temporarily Down Regulated
yddH	946192	Uncharacterized protein yddH	[]	Up Regulated
sapB	946191	Peptide transport system permease protein sapB		Temporarily Down Regulated
ygcE	946193	Uncharacterized sugar kinase ygcE	['Central intermediary metabolism', 'carbohydrate metabolic process']	Temporarily Up Regulated
trxA	948289	Thioredoxin-1		Up Regulated
ydiH	946194	Uncharacterized protein ydiH	['proteolysis']	Up Regulated
fucI	946195	L-fucose isomerase		Up Regulated
ilvA	948287	Threonine dehydratase biosynthetic		Ambiguous/Unsorted
ppiC	948285	Peptidyl-prolyl cis-trans isomerase C		Ambiguous/Unsorted
rstA	946199	Transcriptional regulatory protein rstA		Temporarily Up Regulated
gpp	948291	Guanosine-5'-triphosphate,3'-diphosphate pyrophosphatase		Down Regulated
rep	948292	ATP-dependent DNA helicase rep		Down Regulated
wzyE	948293	Putative ECA polymerase		Down Regulated
ydiL	946181	Uncharacterized protein ydiL	[]	Temporarily Up Regulated
ydhZ	946180	Uncharacterized protein ydhZ	[]	Up Regulated
rffH	948299	Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thymidylyltransferase 2		Temporarily Down Regulated
sufS	946185	Cysteine desulfurase		Up Regulated

torR	946182	TorCAD operon transcriptional regulatory protein torR		Temporarily Up Regulated
ydiJ	946189	Uncharacterized protein ydiJ	['Energy production and conversion']	Ambiguous/Unsorted
rffA	948296	Lipopolysaccharide biosynthesis protein rffA		Down Regulated
ybaS	946187	Glutaminase 1		Up Regulated
puuA	946202	Gamma-glutamylputrescine synthetase		Down Regulated
Int	946201	Apolipoprotein N-acyltransferase		Ambiguous/Unsorted
sapD	946203	Peptide transport system ATP-binding protein sapD		Down Regulated
yadD	944781	Uncharacterized protein yadD	['Replication recombination and repair', 'DNA recombination']	Down Regulated
appA	946206	Periplasmic appA protein		Up Regulated
ydiA	946207	Uncharacterized protein yuaU; Putative phosphotransferase ydiJ		Down Regulated
ppsR	946207	Uncharacterized protein yuaU; Putative phosphotransferase ydiA		Down Regulated
mdtB	946606	Multidrug resistance protein mdtB		Up Regulated
mdtC	946608	Multidrug resistance protein mdtC		Ambiguous/Unsorted
rffE	944789	UDP-N-acetylglucosamine 2-epimerase		Ambiguous/Unsorted
yegQ	946609	Uncharacterized protease yegQ	[]	Down Regulated
ydiB	946200	Quinate/shikimate dehydrogenase		Temporarily Up Regulated
ftsZ	944786	Cell division protein ftsZ		Down Regulated
baeS	946611	Sensor protein; Signal transduction histidine-protein kinase baeS		Down Regulated
ybiS	945441	Uncharacterized protein ybiS	['phosphoenolpyruvate dependent sugar phosphotransferase system']	Ambiguous/Unsorted
ybiT	945440	Uncharacterized ABC transporter ATP-binding protein ybiT	[]	Ambiguous/Unsorted
fhfD	945442	Transcriptional activator fhfD		Down Regulated
puuE	945446	4-aminobutyrate aminotransferase		Down Regulated
ydcF	946215	Protein ydcF		Ambiguous/Unsorted
fadK	946213	Short-chain-fatty-acid-CoA ligase		Ambiguous/Unsorted
mitC	945428	Membrane-bound lytic murein transglycosylase C		Temporarily Up Regulated
ydiS	946212	Probable electron transfer flavoprotein-quinone oxidoreductase ydiS		Temporarily Down Regulated
folA	944790	Dihydrofolate reductase; Dihydrofolate reductase type 1		Ambiguous/Unsorted
ydiU	946219	UPF0061 protein ydiU		Down Regulated
ydiY	946218	Uncharacterized protein ydiY	[]	Up Regulated
murE	944791	UDP-N-acetylmuramoyl-L-alanyl-D-glutamate-2,6-diaminopimelate ligase		Ambiguous/Unsorted
lpxL	946216	Lipid A biosynthesis lauroyl acyltransferase		Up Regulated
rihC	944796	Non-specific ribonucleoside hydrolase rihC		Up Regulated
leuB	944798	3-isopropylmalate dehydrogenase		Temporarily Down Regulated
aroD	946210	B3-dehydroquinate dehydratase		Down Regulated
aceK	944797	Isocitrate dehydrogenase kinase/phosphatase		Down Regulated
ftsI	944799	Peptidoglycan synthetase ftsI		Down Regulated
yegE	946600	Uncharacterized protein yegE	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'regulation of transcription', 'Regulation of gene expression']	Temporarily Up Regulated
mdtA	946604	Multidrug resistance protein mdtA		Up Regulated
ybil	945434	Uncharacterized protein ybil	['Adaptation to stress']	Up Regulated
ybiJ	945433	Uncharacterized protein ybiJ	[]	Temporarily Up Regulated
pps	946209	Phosphoenolpyruvate synthase		Ambiguous/Unsorted
ppsA	946209	Phosphoenolpyruvate synthase		Ambiguous/Unsorted
dinG	945431	Probable ATP-dependent helicase dinG		Down Regulated
mntR	945437	Transcriptional regulator mntR		Ambiguous/Unsorted
glnQ	945435	Glutamine transport ATP-binding protein glnQ		Down Regulated
dapB	944762	Dihydrodipicolinate reductase		Ambiguous/Unsorted
Mog	944760	Molybdopterin biosynthesis mog protein		Up Regulated
rpsT	944759	30S ribosomal protein S20		Down Regulated
nhaR	944757	Transcriptional activator protein nhaR		Ambiguous/Unsorted
rhlE	945425	Putative ATP-dependent RNA helicase rhlE		Down Regulated
ybiB	945424	Uncharacterized protein ybiB	['Energy metabolism carbon', 'nitrate assimilation']	Ambiguous/Unsorted
ybiH	945421	Uncharacterized HTH-type transcriptional regulator ybiH	['Defense mechanisms', 'Primary Active Transporters']	Up Regulated
exbB	945420	Biopolymer transport protein exbB		Temporarily Up Regulated
apaH	944770	Bis(5'-nucleosyl)-tetraphosphatase, symmetrical; Bis(5'-nucleosyl)-tetraphosphatase [symmetrical]		Ambiguous/Unsorted
ftsA	944778	Cell division protein ftsA		Ambiguous/Unsorted
ispH	944777	4-hydroxy-3-methylbut-2-enyl diphosphate reductase		Ambiguous/Unsorted
apaG	944772	Protein apaG		Up Regulated
sspB	944774	Stringent starvation protein B		Down Regulated
rpmD	947797	50S ribosomal protein L30		Down Regulated
secY	947799	Preprotein translocase subunit secY; Preprotein translocase secY subunit		Down Regulated
rplO	947798	50S ribosomal protein L15		Down Regulated
rpsD	947793	30S ribosomal protein S4		Temporarily Up Regulated
rpsK	947792	30S ribosomal protein S11		Down Regulated
rpsE	947795	30S ribosomal protein S5		Ambiguous/Unsorted
ybhG	945414	UPF0194 membrane protein ybhG		Up Regulated

ybhF	945413	Uncharacterized ABC transporter ATP-binding protein ybhF		Temporarily Up Regulated
rpsM	947791	30S ribosomal protein S13; 30S ribosomal protein		Down Regulated
yehl	946649	Uncharacterized protein yehl	["Translation ribosomal structure and biogenesis", "translation", "ion transport"]	Up Regulated
metC	946240	Cystathione beta-lyase metC		Ambiguous/Unsorted
ybdG	946243	Uncharacterized protein ybdG	[]	Ambiguous/Unsorted
fiu	946246	Catecholate siderophore receptor fiu		Up Regulated
rimN	946249	Ribosomal RNA large subunit methyltransferase N		Down Regulated
rimN	947783	Putative ribosome maturation factor rimN		Up Regulated
SDH	945402	Succinate dehydrogenase flavoprotein subunit		Ambiguous/Unsorted
ybhR	945403	Inner membrane transport permease ybhR		Temporarily Up Regulated
rplQ	947784	50S ribosomal protein L17		Temporarily Down Regulated
yrD	947782	Uncharacterized protein yrD	["Replication recombination and repair", "amino acid biosynthetic process", "aromatic amino acid family biosynthetic process"]	Up Regulated
dld	946653	D-lactate dehydrogenase		Ambiguous/Unsorted
mscl	947787	Large-conductance mechanosensitive channel		Temporarily Up Regulated
trkA	947788	Trk system potassium uptake protein trkA		Up Regulated
yhdN	947785	Uncharacterized protein yhdN	[]	Down Regulated
zntR	947786	HTH-type transcriptional regulator zntR		Down Regulated
yeiE	946657	Uncharacterized HTH-type transcriptional regulator yeiE	["Transcription", " RNA related", " Type of regulation", "transcription", "regulation of transcription DNA dependent"]	Down Regulated
yegW	946639	Uncharacterized HTH-type transcriptional regulator yegW	[]	Temporarily Up Regulated
astC	946255	Succinylornithine transaminase		Up Regulated
spy	946253	Spheroplast protein Y		Temporarily Up Regulated
astB	946259	N-succinylarginine dihydrolase		Up Regulated
lptE	946257	LPS-assembly lipoprotein lptE		Ambiguous/Unsorted
yrdB	947774	Uncharacterized protein yrdB	[" Building block biosynthesis", "purine nucleotide biosynthetic process", "aromatic amino acid family biosynthetic process"]	Temporarily Down Regulated
yrdA	947775	Protein yrdA		Ambiguous/Unsorted
aroE	947776	Shikimate dehydrogenase; Quinate/shikimate dehydrogenase		Up Regulated
pncB	946648	Nicotinate phosphoribosyltransferase		Down Regulated
rihB	946646	Pyrimidine-specific ribonucleoside hydrolase rihB		Temporarily Up Regulated
mrp	946627	Protein mrp		Down Regulated
pntA	946628	NAD(P) transhydrogenase subunit alpha		Up Regulated
helD	946227	Helicase IV		Down Regulated
pheS	946223	Phenylalanyl-tRNA synthetase alpha chain		Ambiguous/Unsorted
ycgL	946226	UPF0745 protein ycgL		Ambiguous/Unsorted
aaeR	947760	HTH-type transcriptional activator aaeR		Up Regulated
acrF	947768	Acriflavine resistance protein F		Temporarily Up Regulated
yhdW	947766	Putative amino-acid ABC transporter-binding protein yhdW		Up Regulated
yegU	946630	Uncharacterized protein yegU	[]	Ambiguous/Unsorted
yhdZ	947763	Uncharacterized amino-acid ABC transporter ATP-binding protein yhdZ		Down Regulated
yhdY	947764	Inner membrane amino-acid ABC transporter permease protein yhdY		Up Regulated
fbaB	946632	Fructose-bisphosphate aldolase class 1		Ambiguous/Unsorted
pfkB	946230	6-phosphofructokinase isozyme 2		Ambiguous/Unsorted
chbG	946231	UPF0249 protein chbG		Temporarily Up Regulated
tldD	947749	Protein tldD		Down Regulated
ydjN	946238	Uncharacterized symporter ydjN	[]	Down Regulated
yniA	946236	Uncharacterized protein yniA	[]	Up Regulated
katE	946234	Catalase HPII; Catalase		Ambiguous/Unsorted
cedA	946235	Cell division activator cedA		Down Regulated
ychH	947750	Uncharacterized protein ychH	["Carbohydrate transport and metabolism", "carbohydrate metabolic process"]	Up Regulated
tolA	946625	Protein tolA		Down Regulated
accB	947758	Biotin carboxyl carrier protein of acetyl-CoA carboxylase		Ambiguous/Unsorted
hpt	946624	Hypoxanthine phosphoribosyltransferase		Ambiguous/Unsorted
cyaY	947754	Protein cyaY		Up Regulated
cyaA	947755	Adenylate cyclase		Down Regulated
nanA	947742	N-acetylneuraminate lyase 1; N-acetylneuraminate lyase		Up Regulated
ccmE	946697	Cytochrome c-type biogenesis protein ccmE		Temporarily Up Regulated
aaeA	947748	p-hydroxybenzoic acid efflux pump subunit aaeA		Ambiguous/Unsorted
yejK	946690	Nucleoid-associated protein ndpA		Ambiguous/Unsorted
rmlI	946691	Ribosomal RNA large subunit methyltransferase I		Ambiguous/Unsorted
yejL	946694	UPF0352 protein yejL		Temporarily Up Regulated
rtn	946695	Protein rtn		Up Regulated
lpdT	946693	Inner membrane protein yeiU		Down Regulated
recQ	948318	ATP-dependent DNA helicase recQ		Down Regulated
dapE	948313	Succinyl-diaminopimelate desuccinylase		Ambiguous/Unsorted
pldB	948314	Lysophospholipase L2		Down Regulated
metR	948310	HTH-type transcriptional regulator metR		Down Regulated

hemY	948311	Protein hemY		Ambiguous/Unsorted
ushA	947331	Protein ushA		Ambiguous/Unsorted
yejM	946685	Inner membrane protein yejM		Down Regulated
mlaE	947732	UPF0393 inner membrane protein yrbE		Temporarily Down Regulated
yrbE	947732	UPF0393 inner membrane protein yrbE		Temporarily Down Regulated
flgC	946687	Flagellar basal-body rod protein flgC		Down Regulated
yejF	946689	Uncharacterized ABC transporter ATP-binding protein yejF		Ambiguous/Unsorted
cueO	947736	Blue copper oxidase cueO		Temporarily Up Regulated
kdsD	947734	Arabinose 5-phosphate isomerase		Ambiguous/Unsorted
osmF	946681	Putative osmoprotectant uptake system substrate-binding protein osmF		Up Regulated
flgM	946684	Negative regulator of flagellin synthesis		Ambiguous/Unsorted
pldA	948307	Phospholipase A1		Up Regulated
rffG	948300	dTDP-glucose 4,6-dehydratase		Down Regulated
ydhP	947340	Inner membrane transport protein ydhP		Temporarily Down Regulated
rffM	948301	Probable UDP-N-acetyl-D-mannosaminuronic acid transferase		Temporarily Up Regulated
gltB	947724	Glutamate synthase [NADPH] large chain		Ambiguous/Unsorted
gltD	947723	Glutamate synthase [NADPH] small chain		Down Regulated
ampE	946678	Protein ampE		Temporarily Up Regulated
speE	947726	Spermidine synthase		Ambiguous/Unsorted
secG	947720	Protein-export membrane protein secG		Up Regulated
fruK	946676	1-phosphofructokinase		Down Regulated
fruB	946677	Multiphosphoryl transfer protein		Ambiguous/Unsorted
yeiP	946674	Elongation factor P-like protein		Ambiguous/Unsorted
yejA	946675	Uncharacterized protein yejA		Down Regulated
fruA	946672	PTS system fructose-specific EIIBC component		Down Regulated
fixA	947316	Protein fixA		Ambiguous/Unsorted
pncB	947318	Poly(A) polymerase		Down Regulated
lysA	947313	Diaminopimelate decarboxylase		Ambiguous/Unsorted
galR	947314	HTH-type transcriptional regulator galR		Temporarily Down Regulated
aas	947315	Bifunctional protein aas		Temporarily Up Regulated
hpf	947718	Probable sigma(54) modulation protein		Down Regulated
pspB	945893	Phage shock protein B		Temporarily Up Regulated
speD	947719	S-adenosylmethionine decarboxylase proenzyme		Ambiguous/Unsorted
speB	947715	Agmatinase		Down Regulated
lysP	946667	Lysine-specific permease		Down Regulated
amiD	945494	N-acetylmuramoy-L-alanine amidase amiD		Temporarily Up Regulated
rpoN	947714	RNA polymerase sigma-54 factor		Down Regulated
ybjQ	945493	UPF0145 protein ybjQ		Temporarily Down Regulated
ybjT	945496	Uncharacterized protein ybjT	["Cell wall membrane envelope biogenesis"]	Temporarily Down Regulated
nfo	946669	Endonuclease 4; Probable endonuclease 4		Down Regulated
ybjS	945495	Uncharacterized protein ybjS	[]	Ambiguous/Unsorted
aat	945490	Leucyl/phenylalanyl-tRNA--protein transferase		Down Regulated
cdd	946663	Cytidine deaminase		Up Regulated
ybjP	945491	Uncharacterized lipoprotein ybjP	['Amino acid transport and metabolism', 'Building block biosynthesis']	Up Regulated
ppbG	946662	D-alanyl-D-alanine endopeptidase		Down Regulated
ybjD	945498	Uncharacterized protein ybjD	['SOS response']	Up Regulated
pspC	945499	Phage shock protein C		Up Regulated
kduD	947323	2-deoxy-D-gluconate 3-dehydrogenase		Down Regulated
yqeF	947324	Probable acetyl-CoA acetyltransferase		Temporarily Up Regulated
ymdC	947321	Uncharacterized protein ymdC	[]	Temporarily Up Regulated
macA	947322	Macrolide-specific efflux protein macA		Ambiguous/Unsorted
iraP	947709	Anti-adapter protein iraP		Temporarily Up Regulated
ygeV	947320	Uncharacterized sigma-54-dependent transcriptional regulator y	["Signal transduction mechanisms", "Genetic unit regulated", "two component signal transduction system phosphorelay", "regulation of gene expression"]	Up Regulated
dusB	947707	tRNA-dihydrouridine synthase B		Temporarily Up Regulated
prmA	947708	Ribosomal protein L11 methyltransferase		Ambiguous/Unsorted
artP	945489	Arginine transport ATP-binding protein artP		Temporarily Down Regulated
potF	945480	Putrescine-binding periplasmic protein		Ambiguous/Unsorted
grmr	945868	Protein grmr		Temporarily Up Regulated
yciT	945869	Uncharacterized HTH-type transcriptional regulator yciT		Ambiguous/Unsorted
rimK	945484	Ribosomal protein S6 modification protein		Ambiguous/Unsorted
csrD	947702	Uncharacterized protein yhdA		Temporarily Up Regulated
ybjN	945482	Uncharacterized protein ybjN	["Energy metabolism carbon", "electron transport", "translation"]	Down Regulated
murA	947703	UDP-N-acetylglucosamine 1-carboxyvinyltransferase		Ambiguous/Unsorted
nfsA	945483	Oxygen-insensitive NADPH nitroreductase		Ambiguous/Unsorted
sapA	945873	Peptide transport periplasmic protein sapA		Up Regulated

ycjF	945878 UPF0283 membrane protein ycjF		Temporarily Down Regula
prr	945876 Gamma-aminobutyraldehyde dehydrogenase		Up Regulated
ycjW	945875 Uncharacterized HTH-type transcriptional regulator ycjW	['Transcription', ' RNA related', ' Type of regulation', ' Genetic unit regulated', 'transcription', 'regulation of transcription DNA depende	Ambiguous/Unsorted
potG	945476 Putrescine transport ATP-binding protein potG		Ambiguous/Unsorted
grxA	945479 Glutaredoxin-1		Ambiguous/Unsorted
tyrR	945879 Transcriptional regulatory protein tyrR		Ambiguous/Unsorted
ybjl	945470 Phosphatase ybjl		Down Regulated
ihfA	945472 Integration host factor subunit alpha		Ambiguous/Unsorted
ybjL	945474 Putative transport protein ybjL		Ambiguous/Unsorted
puuD	945882 Gamma-glutamyl-gamma-aminobutyrate hydrolase		Ambiguous/Unsorted
rppH	947300 RNA pyrophosphohydrolase		Temporarily Up Regulated
pspA	945887 Phage shock protein A		Down Regulated
puuR	945886 HTH-type transcriptional regulator puuR		Up Regulated
ompC	945889 Outer membrane protein G		Ambiguous/Unsorted
ygdR	947304 Uncharacterized lipoprotein ygdR	['Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid metabolic process']	Temporarily Up Regulated
lgt	947303 Prolipoprotein diacylglycerol transferase		Ambiguous/Unsorted
yfhM	947302 Uncharacterized lipoprotein yfhM	[]	Up Regulated
rhmD	945881 L-rhamnose dehydratase		Ambiguous/Unsorted
yfaW	945881 L-rhamnose dehydratase		Ambiguous/Unsorted
tas	947306 Protein tas		Temporarily Up Regulated
ascG	947305 HTH-type transcriptional regulator ascG		Ambiguous/Unsorted
acrD	945464 Probable aminoglycoside efflux pump		Ambiguous/Unsorted
rimO	945465 Ribosomal protein S12 methylthiotransferase rimO		Down Regulated
yliE	945462 Uncharacterized protein yliE	['Signal transduction mechanisms', ' Type of regulation', 'two component signal transduction system phosphorelay ', 'transcription', 'ri	Up Regulated
rssB	945855 Protein hnr		Temporarily Down Regula
yciO	945854 Uncharacterized protein yciO	[]	Ambiguous/Unsorted
Ogt	945853 Methylated-DNA-protein-cysteine methyltransferase		Down Regulated
add	945851 Adenosine deaminase		Ambiguous/Unsorted
gsiA	945457 Glutathione import ATP-binding protein gsiA		Down Regulated
gsiB	945459 Glutathione-binding protein gsiB		Ambiguous/Unsorted
deoR	945453 Deoxyribose operon repressor		Down Regulated
moeA	945454 Molybdopterin biosynthesis protein moeA		Ambiguous/Unsorted
dacC	945455 D-alanyl-D-alanine carboxypeptidase dacC		Ambiguous/Unsorted
focC	945451 Bifunctional protein focC		Ambiguous/Unsorted
moeB	945452 Molybdopterin biosynthesis protein moeB		Temporarily Down Regula
yciV	945857 Protein trpH		Down Regulated
yciW	945859 Uncharacterized protein yciW	['Lipid transport and metabolism']	Down Regulated
tkrB	945865 Transketolase 2		Up Regulated
rmb	945864 Exoribonuclease 2		Temporarily Down Regula
osmE	945866 Osmotically-inducible lipoprotein B		Up Regulated
ydfI	945861 Uncharacterized oxidoreductase ydfI	[' Carbon compound utilization']	Up Regulated
yciN	945860 Protein yciN		Up Regulated
dapF	948364 Diaminopimelate epimerase		Down Regulated
ybcJ	945158 Uncharacterized protein ybcJ	[]	Ambiguous/Unsorted
yihN	948365 Inner membrane protein yihN		Ambiguous/Unsorted
glnL	948360 Nitrogen regulation protein NR(II); Sensor protein		Down Regulated
proX	947165 Glycine betaine-binding periplasmic protein		Temporarily Up Regulated
glnG	948361 Nitrogen regulation protein NR(I)		Temporarily Up Regulated
emrA	947166 Multidrug resistance protein A		Down Regulated
hemH	948362 Oxygen-independent coproporphyrinogen-III oxidase		Down Regulated
yihL	948363 UPF0241 protein yihL		Ambiguous/Unsorted
luxS	947168 S-ribosylhomocysteine lyase		Ambiguous/Unsorted
allC	945150 Allantoate amidohydrolase		Down Regulated
rfbA	945154 Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thymidylyltransferase 1		Down Regulated
yihL	948368 Uncharacterized HTH-type transcriptional regulator yihL	['Amino acid transport and metabolism', ' Carbon compound utilization', ' Central intermediary metabolism', ' Primary Active Transport']	Down Regulated
typA	948369 GTP-binding protein typA/BipA; GTP-binding protein typA/bipA		Ambiguous/Unsorted
rplT	945152 50S ribosomal protein L20		Temporarily Up Regulated
ytfE	948724 Regulator of cell morphogenesis and NO signaling		Ambiguous/Unsorted
malY	945937 Protein malY		Up Regulated
CycA	948725 D-serine/D-alanine/glycine transporter		Down Regulated
ytfB	948727 Uncharacterized protein ytfB	['Replication recombination and repair', 'DNA recombination', 'DNA integration']	Up Regulated
rplI	948720 50S ribosomal protein L9		Ambiguous/Unsorted
rpsR	948721 30S ribosomal protein S18		Down Regulated
mhpF	945938 Mhp operon transcriptional activator		Temporarily Up Regulated
pbpC	947152 Penicillin-binding protein 1C		Temporarily Down Regula

dd	948378 D-tyrosyl-tRNA(Tyr) deacylase		Down Regulated
dbpA	947153 ATP-independent RNA helicase dbpA		Down Regulated
yqcA	947151 Uncharacterized protein yqcA	[]	Ambiguous/Unsorted
ygaM	947157 Uncharacterized protein ygaM	["Cell wall membrane envelope biogenesis"]	Up Regulated
prpD	945931 2-methylcitrate dehydratase		Ambiguous/Unsorted
cpdB	948729 EcS5191; ECP_4467; ECSE_4519; EcSMS35_4692; ECUMN_4750; Z5824; EcoC_3793; ECS88_4807; E2348C_4544; EC55989_4773; ECDH10B_4408; ECED1_5072; ECH74115_5730; ECIAI	[]	Up Regulated
yihP	948371 Inner membrane symporter yihP		Down Regulated
rndE	947155 Ribonucleoside-diphosphate reductase; Ribonucleoside-diphosphate reductase 2 subunit alpha		Temporarily Up Regulated
cysQ	948728 3'(2'),5'-bisphosphate nucleotidase cysQ		Up Regulated
sfmD	945160 Outer membrane usher protein sfmD		Ambiguous/Unsorted
yegl	947159 Uncharacterized protein yegl	[]	Ambiguous/Unsorted
macE	945164 Macrolide export ATP-binding/permease protein macB		Up Regulated
glnA	948370 Glutamine synthetase		Temporarily Down Regulated
ytfJ	948737 Uncharacterized protein ytfJ	["Energy production and conversion", "Secondary metabolites biosynthesis transport and catabolism"]	Temporarily Up Regulated
ytfl	948735 UPF0053 inner membrane protein ytfl		Temporarily Down Regulated
ytfm	948733 Uncharacterized protein ytfm	[]	Up Regulated
msrA	948734 Peptide methionine sulfoxide reductase msrA		Ambiguous/Unsorted
qorB	948731 Uncharacterized oxidoreductase ytfG		Up Regulated
fdhE	948384 Protein fdhE		Down Regulated
ydJA	945964 Putative NAD(P)H nitroreductase ydJA		Ambiguous/Unsorted
yddB	945961 Uncharacterized protein yddB	["Cell wall membrane envelope biogenesis", "translation", "ion transport"]	Up Regulated
MltB	947184 Membrane-bound lytic murein transglycosylase B		Down Regulated
allB	945134 Allantoinase		Down Regulated
tus	945135 DNA replication terminus site-binding protein		Down Regulated
norR	947186 Anaerobic nitric oxide reductase transcription regulator norR		Temporarily Down Regulated
kefA	945132 Potassium efflux system kefA		Ambiguous/Unsorted
pmrD	945130 Signal transduction protein pmrD		Temporarily Up Regulated
ytfn	948742 Uncharacterized protein ytfn	[]	Down Regulated
fhaA	947181 Formate hydrogenlyase transcriptional activator		Ambiguous/Unsorted
ytfQ	948746 ABC transporter periplasmic-binding protein ytfQ		Up Regulated
ppa	948748 Inorganic pyrophosphatase		Ambiguous/Unsorted
ydeN	945957 Uncharacterized sulfatase ydeN	["Signal transduction mechanisms", "Metabolism of other compounds"]	Up Regulated
yihW	948381 Uncharacterized HTH-type transcriptional regulator yihW	["Transcription", "RNA related", "Type of regulation", "Genetic unit regulated", "transcription", "regulation of transcription DNA dependent"]	Temporarily Down Regulated
yihX	948380 Phosphatase yihX		Up Regulated
fdoH	948395 Formate dehydrogenase-O iron-sulfur subunit		Down Regulated
ylbA	945149 Uncharacterized protein ylbA	["Carbon compound utilization", "proteolysis"]	Ambiguous/Unsorted
ydaL	945953 Uncharacterized protein ydal	[]	Up Regulated
clcB	947179 Voltage-gated CIC-type chloride channel clcB		Temporarily Down Regulated
csrA	947176 Carbon storage regulator		Temporarily Up Regulated
fdhD	948393 Protein fdhD		Ambiguous/Unsorted
fdoG	948394 Formate dehydrogenase-O major subunit		Down Regulated
dgt	947177 Deoxyguanosinetriphosphate triphosphohydrolase		Down Regulated
qseC	947174 Sensor protein qseC; Sensor protein		Down Regulated
xdhC	945148 Xanthine dehydrogenase iron-sulfur-binding subunit		Ambiguous/Unsorted
mppA	945951 Periplasmic murein peptide-binding protein		Up Regulated
ThiM	945142 Hydroxyethylthiazole kinase		Ambiguous/Unsorted
lpzM	945143 Lipid A biosynthesis (KDO)2-(lauroyl)-lipid IVA acyltransferase		Ambiguous/Unsorted
yniB	945140 Uncharacterized protein yniB	[]	Up Regulated
yjgA	948751 UPF0307 protein yjgA		Up Regulated
rndD	948755 Anaerobic ribonucleoside-triphosphate reductase		Temporarily Up Regulated
ydbH	945949 Uncharacterized protein ydbH	[]	Down Regulated
ydhV	948756 Uncharacterized protein ydhV	["Central intermediary metabolism"]	Temporarily Up Regulated
fbp	948753 Fructose-1,6-bisphosphatase class 1		Ambiguous/Unsorted
yddA	945945 Inner membrane ABC transporter ATP-binding protein yddA		Ambiguous/Unsorted
uspF	945948 Universal stress protein F		Up Regulated
fre	948325 NAD(P)H-flavin reductase		Down Regulated
fadA	948324 3-ketoacyl-CoA thiolase		Up Regulated
raiA	947129 Ribosome-associated inhibitor A		Up Regulated
rfaH	948327 Transcriptional activator rfaH		Ambiguous/Unsorted
ubiD	948326 3-octaprenyl-4-hydroxybenzoate carboxy-lyase		Down Regulated
tatA	948321 Sec-independent protein translocase protein tatA		Down Regulated
ysgA	948320 Putative carboxymethylenebutenolidase		Up Regulated
patA	947120 Putrescine aminotransferase		Up Regulated
ubiB	948322 Probable ubiquinone biosynthesis protein ubiB		Down Regulated
nth	947122 Endonuclease III		Down Regulated

ybbP	945118	Uncharacterized ABC transporter permease ybbP			Up Regulated
ydgH	945117	Protein ydgH			Down Regulated
yjgI	948765	Uncharacterized oxidoreductase yjgI	□		Down Regulated
pyrB	948767	Aspartate carbamoyltransferase catalytic chain; Aspartate carbamoyltransferase			Ambiguous/Unsorted
treR	948760	LTH-type transcriptional regulator treR			Down Regulated
pyrI	948763	Aspartate carbamoyltransferase regulatory chain			Down Regulated
treC	948762	Trehalose-6-phosphate hydrolase			Ambiguous/Unsorted
xdhA	947116	Xanthine dehydrogenase molybdenum-binding subunit			Ambiguous/Unsorted
yjgI	948338	Uncharacterized protein yjgI	□		Down Regulated
ybbA	945122	Uncharacterized ABC transporter ATP-binding protein ybbA			Ambiguous/Unsorted
fadB	948336	Fatty acid oxidation complex subunit alpha			Up Regulated
pepC	948335	Xaa-Pro dipeptidase			Ambiguous/Unsorted
queD	945123	Putative 6-pyruvoyl tetrahydrobiopterin synthase			Up Regulated
hemC	948331	Protoporphyrinogen oxidase			Ambiguous/Unsorted
ompV	945128	Outer membrane protein W			Up Regulated
tesA	945127	Acyl-CoA thioesterase I			Down Regulated
tabA	948777	Uncharacterized protein yjgK			Down Regulated
yjgL	948776	Uncharacterized protein yjgL	["Type of regulation"]		Up Regulated
yjgJ	948775	Uncharacterized LTH-type transcriptional regulator yjgJ	["Cell wall membrane envelope biogenesis", "intracellular trafficking secretion and vesicular transport", "Cell division", "protein transpc	Down Regulated	
argI	948774	Ornithine carbamoyltransferase chain I; Ornithine carbamoyltransferase			Down Regulated
rraB	948773	Uncharacterized protein yjgD			Up Regulated
yjgM	948772	Uncharacterized N-acetyltransferase yjgM	□		Temporarily Up Regulated
uvrD	948347	DNA helicase II			Temporarily Down Regula
rdoA	948346	Protein rdoA			Temporarily Down Regula
mobA	948349	Molybdopterin-guanine dinucleotide biosynthesis protein A			Down Regulated
proV	947148	Glycine betaine/L-proline transport ATP-binding protein proV			Temporarily Down Regula
nrdF	947149	Ribonucleoside-diphosphate reductase 2 subunit beta			Up Regulated
ygaU	947144	Uncharacterized protein ygaU	□		Ambiguous/Unsorted
ygiS	947140	Putative binding protein ygiS			Up Regulated
allD	948342	Ureidoglycolate dehydrogenase			Temporarily Down Regula
holC	948787	DNA polymerase III subunit chi			Ambiguous/Unsorted
recE	945918	Exodeoxyribonuclease 8			Temporarily Down Regula
ycuU	949008	Uncharacterized protein ycuU	□		Up Regulated
fadE	949007	Acyl-coenzyme A dehydrogenase			Up Regulated
btuE	945915	Vitamin B12 transport periplasmic protein btuE; Glutathione peroxidase			Ambiguous/Unsorted
abgT	945912	Aminobenzoyl-glutamate transport protein			Ambiguous/Unsorted
rpsI	949000	30S ribosomal protein S9			Down Regulated
yjgN	948784	Inner membrane protein yjgN			Ambiguous/Unsorted
prfA	949002	Peptide chain release factor 1			Ambiguous/Unsorted
YigA	948359	Uncharacterized protein yigA			Temporarily Up Regulated
recR	945100	Recombination protein recR			Down Regulated
degP	947139	Protease do			Ambiguous/Unsorted
yihF	948352	Uncharacterized protein yihF	["Replication recombination and repair", "Adaptation to stress"]		Down Regulated
corA	948351	Magnesium transport protein corA			Temporarily Down Regula
yahE	947134	Uncharacterized protein yahE	□		Temporarily Up Regulated
dnaX	945105	DNA polymerase III subunit tau			Ambiguous/Unsorted
ydaN	945910	Zinc transport protein zntB			Ambiguous/Unsorted
ftsK	945102	DNA translocase ftsK			Down Regulated
polA	948356	DNA polymerase I			Ambiguous/Unsorted
dps	945101	DNA protection during starvation protein			Up Regulated
xerC	948355	Tyrosine recombinase xerC			Temporarily Up Regulated
stpA	947130	DNA-binding protein stpA			Ambiguous/Unsorted
ybaB	945104	UPF0133 protein ybaB			Ambiguous/Unsorted
dsbA	948353	Thiol:disulfide interchange protein dsbA			Up Regulated
ykgG	945906	UPF0707 protein ykgG			Up Regulated
fnr	945908	Fumarate and nitrate reduction regulatory protein			Down Regulated
uspE	945904	Universal stress protein E			Up Regulated
folK	948792	2-amino-4-hydroxy-6-hydroxymethyl-dihydropteridine pyrophosphokinase			Up Regulated
lptF	948795	Lipopolysaccharide export system permease protein lptF			Down Regulated
yehT	949024	Uncharacterized response regulatory protein yehT	["transcription", "regulation of transcription DNA dependent"]		Down Regulated
CAR	949025	Carbamoyl-phosphate synthase small chain			Ambiguous/Unsorted
yacL	944809	UPF0231 protein yacL			Up Regulated
yehS	949026	Uncharacterized protein yehS	["Replication recombination and repair"]		Temporarily Up Regulated
idi	949020	Isopentenyl-diphosphate Delta-isomerase			Ambiguous/Unsorted
ftsL	944803	Cell division protein ftsL			Down Regulated

fruR	944804 Fructose repressor		Temporarily Down Regula
mlrA	949029 HTH-type transcriptional regulator mlrA		Ambiguous/Unsorted
acpP	944805 Acyl carrier protein		Down Regulated
maeA	946031 NAD-dependent malic enzyme		Ambiguous/Unsorted
cfa	944811 Cyclopropane-fatty-acyl-phospholipid synthase		Temporarily Up Regulated
mraZ	944810 Protein mraZ		Up Regulated
fdnG	946035 Formate dehydrogenase, nitrate-inducible, major subunit		Down Regulated
hyfB	946961 Hydrogenase-4 component B		Temporarily Up Regulated
ydhF	946960 Oxidoreductase ydhF		Up Regulated
adhP	946036 Alcohol dehydrogenase, propanol-preferring		Up Regulated
ycgK	946963 Uncharacterized protein ycgK	□	Up Regulated
frsA	946039 Esterase frsA		Ambiguous/Unsorted
sufA	949014 Protein sufA		Up Regulated
ygfT	949018 Uncharacterized protein ygfT	['electron transport']	Ambiguous/Unsorted
yncH	946024 Uncharacterized protein yncH	□	Ambiguous/Unsorted
ppx	946970 Exopolyphosphatase		Down Regulated
fucK	946022 L-fuculokinase		Ambiguous/Unsorted
yfgD	946974 Uncharacterized protein yfgD	□	Ambiguous/Unsorted
yqcC	946027 Uncharacterized protein yqcC	□	Ambiguous/Unsorted
rhsE	946026 EC0010B_1586; EC55989_0238; b1456		Down Regulated
ybjX	946025 Uncharacterized protein ybjX	□	Down Regulated
hda	946977 DnaA-homolog protein hda		Down Regulated
cirA	949042 Colicin I receptor		Ambiguous/Unsorted
galS	949043 HTH-type transcriptional regulator galS		Up Regulated
yeiG	949045 S-formylglutathione hydrolase yeiG		Down Regulated
artQ	949046 Arginine transport system permease protein artQ		Ambiguous/Unsorted
waaA	949048 3-deoxy-D-manno-octulosonic-acid transferase		Down Regulated
gtlI	946938 Glutamate/aspartate periplasmic-binding protein		Ambiguous/Unsorted
yeiT	949049 Uncharacterized oxidoreductase yeiT	[' Primary Active Transporters']	Temporarily Up Regulated
pdhR	944827 Pyruvate dehydrogenase complex repressor		Ambiguous/Unsorted
ftsQ	944823 Cell division protein ftsQ		Down Regulated
mutT	944824 Mutator mutT protein		Down Regulated
ydeP	946055 Protein ydeP		Down Regulated
yadG	944833 Uncharacterized ABC transporter ATP-binding protein yadG		Ambiguous/Unsorted
gnsB	946054 Protein gnsB		Temporarily Up Regulated
gadC	946057 Probable glutamate/gamma-aminobutyrate antiporter		Ambiguous/Unsorted
gcd	944830 Quinoprotein glucose dehydrogenase		Ambiguous/Unsorted
ygiW	946051 Protein ygiW		Temporarily Up Regulated
ydeQ	946050 Uncharacterized fimbrial-like protein ydeQ	□	Temporarily Up Regulated
tmcA	946053 Uncharacterized protein ypfI		Down Regulated
ddpA	946052 Probable D,D-dipeptide-binding periplasmic protein ddpA		Up Regulated
PqqL	946059 Probable zinc protease pqqL		Up Regulated
mgIB	949041 D-galactose-binding periplasmic protein		Up Regulated
rpmB	946941 50S ribosomal protein L28		Down Regulated
eutD	946940 Ethanolamine utilization protein eutD		Down Regulated
ubiX	949033 3-octaprenyl-4-hydroxybenzoate carboxy-lyase		Ambiguous/Unsorted
leuO	949034 Probable HTH-type transcriptional regulator leuO		Up Regulated
narQ	946948 Nitrate/nitrite sensor protein narQ		Up Regulated
bcp	946949 Putative peroxiredoxin bcp		Temporarily Down Regula
ppiB	949038 Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-trans isomerase		Up Regulated
thyA	949035 Thymidylate synthase		Down Regulated
mgIA	949036 Galactose/methyl galactoside import ATP-binding protein mgIA		Up Regulated
maeF	946947 NADP-dependent malic enzyme		Ambiguous/Unsorted
lpxC	944816 UDP-3-O-[3-hydroxymyristoyl] N-acetylglucosamine deacetylase		Ambiguous/Unsorted
Gpt	944817 Xanthine phosphoribosyltransferase		Ambiguous/Unsorted
murD	944818 UDP-N-acetylmuramoylalanine--D-glutamate ligase		Ambiguous/Unsorted
mgIC	949039 Galactoside transport system permease protein mgIC		Up Regulated
murF	944813 UDP-N-acetylmuramoyl-tripeptide-D-alanyl-D-alanine ligase		Ambiguous/Unsorted
wzzE	944815 Lipopolysaccharide biosynthesis protein wzzE		Ambiguous/Unsorted
nhaB	944822 Na(+)/H(+) antiporter nhaB		Down Regulated
osmC	946043 Peroxiredoxin osmC		Up Regulated
ypfJ	946956 Uncharacterized protein ypfJ	□	Up Regulated
rnhA	946955 Ribonuclease HI; Ribonuclease H		Down Regulated
yfbB	946953 Protein yfbB		Ambiguous/Unsorted
argT	949030 Lysine-arginine-ornithine-binding periplasmic protein		Up Regulated

gcvR	946950 Glycine cleavage system transcriptional repressor		Ambiguous/Unsorted
ligT	944848 2'-5'-RNA ligase		Down Regulated
yadB	944846 Glutamyl-Q tRNA(Asp) synthetase; Insertion element IS150 uncharacterized 14 kDa protein		Temporarily Up Regulated
uxaC	947599 Uronate isomerase		Up Regulated
hrpB	944845 ATP-dependent RNA helicase hrpB		Ambiguous/Unsorted
ycgF	947592 Uncharacterized protein ycgF	["Signal transduction mechanisms", "two component signal transduction system phosphorelay", "regulation of transcription DNA dependent"]	Temporarily Up Regulated
ygfK	949068 Uncharacterized protein ygfK		Temporarily Down Regulated
rna	949065 Ribonuclease I		Temporarily Down Regulated
fadH	947594 2,4-dienoyl-CoA reductase [NADPH]		Up Regulated
coaE	949060 Dephospha-CoA kinase		Ambiguous/Unsorted
dksA	944850 DnaK suppressor protein		Up Regulated
ydhQ	944851 Uncharacterized protein ydhQ	["Translation ribosomal structure and biogenesis", " Adaptation to stress", "translation"]	Temporarily Down Regulated
tam	946074 Trans-aconitate 2-methyltransferase		Up Regulated
HtpX	946076 Probable protease htpX		Down Regulated
sfsA	944855 Sugar fermentation stimulation protein A		Up Regulated
rnhB	944852 Ribonuclease HII		Down Regulated
yneJ	946079 Uncharacterized HTH-type transcriptional regulator yneJ	["Transcription", " RNA related", " Type of regulation", " Genetic unit regulated", "transcription", "regulation of transcription DNA dependent"]	Temporarily Down Regulated
panB	944839 3-methyl-2-oxobutanoate hydroxymethyltransferase		Down Regulated
lpxB	944838 Lipid-A-disaccharide synthase		Temporarily Down Regulated
rplU	949057 50S ribosomal protein L21		Temporarily Up Regulated
lrp	949051 Leucine-responsive regulatory protein		Ambiguous/Unsorted
cydD	949052 ATP-binding/permease protein cydD		Ambiguous/Unsorted
HypB	947194 Hydrogenase isoenzymes nickel incorporation protein hypB		Down Regulated
hipA	946064 Protein hipA		Temporarily Up Regulated
ygbK	947199 Uncharacterized protein ygbK	["Carbohydrate transport and metabolism"]	Down Regulated
yadN	944841 Uncharacterized fimbrial-like protein yadN	[" Building block biosynthesis"]	Ambiguous/Unsorted
ydeI	946068 Uncharacterized protein ydeI	["Signal transduction mechanisms", "response to stress"]	Up Regulated
hipB	946065 HTH-type transcriptional regulator hipB		Temporarily Up Regulated
ykgC	946092 Probable pyridine nucleotide-disulfide oxidoreductase ykgC		Ambiguous/Unsorted
ulaG	948705 Probable L-ascorbate-6-phosphate lactonase ulaG		Temporarily Up Regulated
argP	944867 Chromosome initiation inhibitor		Down Regulated
mak	949086 Fructokinase		Up Regulated
symE	949088 Endoribonuclease symE		Ambiguous/Unsorted
ymdB	946987 UPF0189 protein ymdB		Up Regulated
xseA	946988 Exodeoxyribonuclease 7 large subunit		Ambiguous/Unsorted
narP	949081 Nitrate/nitrite response regulator protein narP		Temporarily Down Regulated
der	946983 GTP-binding protein engA		Down Regulated
yfgJ	946984 Uncharacterized protein yfgJ	[" Type of regulation"]	Down Regulated
ycil	949085 Protein ycil		Up Regulated
dnaE	944877 DNA polymerase III subunit alpha		Down Regulated
ispU	944874 Undecaprenyl pyrophosphate synthetase		Up Regulated
yfgM	946981 UPF0070 protein yfgM		Ambiguous/Unsorted
yaeR	944875 Uncharacterized protein yaeR	[]	Ambiguous/Unsorted
flhE	946094 Flagellar protein flhE		Down Regulated
glnH	944872 Glutamine-binding periplasmic protein		Ambiguous/Unsorted
yacF	944873 UPF0289 protein yacF		Temporarily Down Regulated
prc	946096 Tail-specific protease		Down Regulated
rseP	944871 Regulator of sigma E protease		Down Regulated
yneK	946080 Uncharacterized protein yneK	[]	Ambiguous/Unsorted
ulaF	948711 L-ribulose-5-phosphate 4-epimerase ulaF		Temporarily Down Regulated
erpA	944857 Iron-sulfur cluster insertion protein erpA		Ambiguous/Unsorted
ulaD	948714 3-keto-L-gulonate-6-phosphate decarboxylase ulaD		Temporarily Down Regulated
fluA	944856 Ferrichrome-iron receptor		Up Regulated
yciM	944858 Uncharacterized protein yciM	[]	Temporarily Up Regulated
sbcC	949076 Nuclease sbcCD subunit C		Temporarily Down Regulated
xdhD	949079 Probable hypoxanthine oxidase xdhD		Ambiguous/Unsorted
iscA	946999 Iron-binding protein iscA		Ambiguous/Unsorted
hscB	946995 Co-chaperone protein hscB		Down Regulated
ccmC	949073 Thiol:disulfide interchange protein dsbE		Temporarily Up Regulated
flgH	946996 Flagellar L-ring protein		Down Regulated
sseA	946993 3-mercaptopyruvate sulfurtransferase		Up Regulated
ygfM	949071 Uncharacterized protein ygfM		Ambiguous/Unsorted
sseB	946994 Protein sseB		Temporarily Down Regulated
ytjB	946089 Protein smp		Down Regulated
ulaR	948706 HTH-type transcriptional regulator ulaR		Up Regulated

ispG	94699 14-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase		Down Regulated
glnD	944863 [Protein-PII] uridylyltransferase		Down Regulated
yifP	948707 Esterase yifP		Up Regulated
ydfH	946087 Uncharacterized HTH-type transcriptional regulator ydfH	[]	Temporarily Up Regulated
ybbL	946990 Uncharacterized ABC transporter ATP-binding protein ybbL	[' Macromolecules cellular constituent biosynthesis', ' Primary Active Transporters', 'DNA repair', 'response to DNA damage stimulus']	Temporarily Up Regulated
tsf	944866 Elongation factor Ts		Down Regulated
ydfG	946085 NADP-dependent L-serine/L-allo-threonine dehydrogenase ydfG		Ambiguous/Unsorted
yebR	946086 UPF0067 protein yebR		Down Regulated
skp	944861 Chaperone protein skp		Up Regulated
dapD	944862 2,3,4,5-tetrahydropyridine-2,6-dicarboxylate N-succinyltransferase		Down Regulated
caiC	944886 Probable crotonobetaine/carnitine-CoA ligase		Temporarily Up Regulated
hscA	944885 Chaperone protein hscA		Temporarily Down Regulated
lpxD	944882 UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acetyltransferase		Ambiguous/Unsorted
kdsB	945539 3-deoxy-manno-octulosonate cytidyltransferase		Down Regulated
fom	949096 Dihydrofolate reductase folM		Temporarily Down Regulated
hupB	949095 DNA-binding protein HU-beta		Ambiguous/Unsorted
fadJ	949097 Fatty acid oxidation complex subunit alpha		Up Regulated
ycbC	945546 Uncharacterized protein ycbC	['regulation of cell shape', 'peptidoglycan biosynthetic process']	Temporarily Up Regulated
mukF	945548 Chromosome partition protein mukF		Down Regulated
smtA	945547 Protein smtA		Up Regulated
ycbB	945541 Uncharacterized protein ycbB	['DNA replication']	Temporarily Up Regulated
rimP	947680 b3170		Temporarily Down Regulated
rlmE	947689 b3179		Ambiguous/Unsorted
yhbY	947688 RNA-binding protein yhbY		Ambiguous/Unsorted
sufD	944878 Protein sufD		Up Regulated
truB	947687 tRNA pseudouridine synthase B		Down Regulated
gmhE	944879 D,D-heptose 1,7-bisphosphate phosphatase		Down Regulated
rpsO	947686 30S ribosomal protein S15		Ambiguous/Unsorted
yafL	944899 Uncharacterized lipoprotein yafL	['Cell wall membrane envelope biogenesis', 'lipid biosynthetic process', 'response to antibiotic']	Down Regulated
metL	944894 D-methionine transport system permease protein metL		Up Regulated
rof	944891 Protein rof		Ambiguous/Unsorted
yejH	945529 Uncharacterized protein yejH	[' Building block biosynthesis', 'amino acid biosynthetic process']	Temporarily Up Regulated
aroA	945528 3-phosphoshikimate 1-carboxyvinyltransferase		Ambiguous/Unsorted
ycaR	945537 UPF0434 protein ycaR		Ambiguous/Unsorted
rpsA	945536 30S ribosomal protein S1		Ambiguous/Unsorted
dead	947674 Cold-shock DEAD box protein A		Down Regulated
cmk	945535 Cytidylate kinase		Ambiguous/Unsorted
ycaL	945534 Uncharacterized metalloprotease ycaL	[]	Up Regulated
nlpI	947673 Lipoprotein nlpI		Temporarily Up Regulated
ihfB	945533 Integration host factor subunit beta		Ambiguous/Unsorted
yhbS	947670 Uncharacterized N-acetyltransferase yhbS	[' Building block biosynthesis']	Up Regulated
msbA	945530 Lipid A export ATP-binding/permease protein msbA		Down Regulated
tilS	944889 RNA(Ile)-lysidine synthase		Ambiguous/Unsorted
yhbW	947677 Uncharacterized protein yhbW	[]	Ambiguous/Unsorted
rlmL	945564 Ribosomal RNA large subunit methyltransferase L		Ambiguous/Unsorted
uup	945566 ABC transporter ATP-binding protein uup		Down Regulated
fabA	945568 3-hydroxydecanoyl-[acyl-carrier-protein] dehydratase		Ambiguous/Unsorted
ycbZ	945569 Putative protease La homolog		Ambiguous/Unsorted
mukE	945549 Chromosome partition protein mukB		Down Regulated
ftsH	947690 Cell division protease ftsH		Ambiguous/Unsorted
ompF	945554 Outer membrane protein F		Down Regulated
objE	947694 ECIAI1_3331; ECP_3270; ECS88_3565; ECIAI39_3678; Z4545; ECH74115_4505; ECOLUMN_3663; EcolC_0517; c3940; EcHS_A3376; EC55989_3601; ECSE_3467; ECED1_3841; ECDH10B_335		Down Regulated
dacB	947693 D-alanyl-D-alanine carboxypeptidase dacB		Ambiguous/Unsorted
greA	947696 Transcription elongation factor; Transcription elongation factor greA		Ambiguous/Unsorted
pyrD	945556 Dihydroorotate dehydrogenase		Ambiguous/Unsorted
fis	947697 DNA-binding protein fis		Ambiguous/Unsorted
yhbE	947699 Uncharacterized inner membrane transporter yhbE	[' Type of regulation']	Temporarily Up Regulated
mukE	945550 Chromosome partition protein mukE		Ambiguous/Unsorted
copA	946106 Copper-exporting P-type ATPase A		Ambiguous/Unsorted
ycbS	946934 Uncharacterized outer membrane usher protein ycbS	['Cell motility', 'Intracellular trafficking secretion and vesicular transport', ' Macromolecules cellular constituent biosynthesis']	Ambiguous/Unsorted
yeeC	946506 Uncharacterized transporter yeeO	[]	Up Regulated
agaD	947649 N-acetylgalactosamine permease IID component		Ambiguous/Unsorted
hisF	946516 imidazole glycerol phosphate synthase subunit hisF		Ambiguous/Unsorted
hisI	946515 Histidine biosynthesis bifunctional protein hisIE		Down Regulated
yeeU	946510 Uncharacterized protein yeeU		Up Regulated

yeeR	946512	Inner membrane protein yeeR			Up Regulated
garD	947641	D-galactarate dehydratase			Temporarily Up Regulated
rihA	945503	Pyrimidine-specific ribonucleoside hydrolase rihA			Up Regulated
cydC	945504	ATP-binding/permease protein cydC			Down Regulated
infA	945500	Translation initiation factor IF-1			Up Regulated
grxB	946926	Glutaredoxin-2			Ambiguous/Unsorted
ynfB	946119	UPF0482 protein ynfB			Ambiguous/Unsorted
speG	946117	Spermidine N(1)-acetyltransferase			Down Regulated
ycgM	946115	Uncharacterized protein ycgM	[]		Up Regulated
pyrG	946116	CTP synthase			Temporarily Down Regulated
ydfE	946113	b1577; ECDH10B_1709			Temporarily Down Regulated
ynjE	946505	Putative thiosulfate sulfurtransferase ynjE			Temporarily Up Regulated
sxy	946504	Protein sxy			Down Regulated
agaR	947636	Putative aga operon transcriptional repressor			Temporarily Down Regulated
cbl	946502	HTH-type transcriptional regulator cbl			Down Regulated
garR	947631	2-hydroxy-3-oxopropionate reductase			Up Regulated
efeB	946500	Peroxidase ycdB			Down Regulated
gark	947632	Glycerate kinase 2			Up Regulated
yfeY	946919	Uncharacterized protein yfeY	[]		Ambiguous/Unsorted
ypeA	946917	Acetyltransferase ypeA			Down Regulated
amiA	946916	Probable N-acetylmuramoyl-L-alanine amidase amiA			Down Regulated
bisC	946915	Biotin sulfoxide reductase			Down Regulated
eutL	946914	Ethanolamine utilization protein eutL			Down Regulated
yfeX	946913	Uncharacterized protein yfeX	['Building block biosynthesis']		Ambiguous/Unsorted
pflA	945517	Pyruvate formate-lyase 1-activating enzyme			Ambiguous/Unsorted
acrR	945516	HTH-type transcriptional regulator acrR			Up Regulated
trpC	945519	Tryptophan biosynthesis protein trpCF			Down Regulated
sufC	946128	Probable ATP-dependent transporter sufC			Ambiguous/Unsorted
kdgR	946129	Transcriptional regulator kdgR			Ambiguous/Unsorted
rimJ	946910	Ribosomal-protein-alanine acetyltransferase			Ambiguous/Unsorted
sbcB	946529	Exodeoxyribonuclease I			Down Regulated
yeeY	946532	Uncharacterized HTH-type transcriptional regulator yeeY	['RNA related']		Down Regulated
yroR	947667	Uncharacterized protein yroR	[]		Up Regulated
yroL	947664	UPF0011 protein yroL			Ambiguous/Unsorted
rsmI	947664	UPF0011 protein yraL			Ambiguous/Unsorted
yeoF	946533	Inner membrane transport protein yeoF			Temporarily Up Regulated
yhbP	947665	UPF0306 protein yhbP			Ambiguous/Unsorted
yeoZ	946538	Protein yeoZ			Ambiguous/Unsorted
yhbT	947669	Uncharacterized protein yhbT	['Coenzyme transport and metabolism', ' Energy metabolism carbon ', ' Building block biosynthesis']		Down Regulated
yajO	946903	Uncharacterized oxidoreductase yajO	[]		Up Regulated
ycak	945520	Uncharacterized NAD(P)H oxidoreductase ycaK	['amino acid transport']		Temporarily Up Regulated
ampR	946904	Penicillin-binding protein ampH			Down Regulated
ycaN	945523	Uncharacterized HTH-type transcriptional regulator ycaN	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']		Down Regulated
ycaq	945524	Uncharacterized protein ycaQ	['two component signal transduction system phosphorelay ']		Ambiguous/Unsorted
ivy	946530	Inhibitor of vertebrate lysozyme			Up Regulated
diaA	947661	DnaA initiator-associating protein diaA			Up Regulated
hemF	946908	Coproporphyrinogen-III oxidase, aerobic			Down Regulated
lpxK	945526	Tetraacyldisaccharide 4'-kinase			Down Regulated
gloB	944902	Hydroxyacylglutathione hydrolase			Down Regulated
rsxC	946137	Electron transport complex protein rnfC			Down Regulated
dmsE	945507	Anaerobic dimethyl sulfoxide reductase chain B			Down Regulated
ynfE	946135	Putative dimethyl sulfoxide reductase chain ynfE			Up Regulated
dkgB	944901	2,5-diketo-D-gluconic acid reductase B			Ambiguous/Unsorted
rarA	945505	Replication-associated recombination protein A			Ambiguous/Unsorted
yafJ	944906	Putative glutamine amidotransferase yafJ			Ambiguous/Unsorted
queA	944905	S-adenosylmethionine:tRNA ribosyltransferase-isomerase			Ambiguous/Unsorted
ycqQ	945509	UPF0142 protein ycaO			Down Regulated
cobT	946517	Nicotinate-nucleotide-dimethylbenzimidazole phosphoribosyltransferase			Ambiguous/Unsorted
dacD	946518	D-alanyl-D-alanine carboxypeptidase dacD			Temporarily Down Regulated
ynfD	946133	Uncharacterized protein ynfD	['Energy production and conversion', ' Electrochemical potential driven transporters', 'response to stress']		Up Regulated
ynfC	946131	UPF0257 lipoprotein ynfC			Down Regulated
poxB	946132	Pyruvate dehydrogenase [cytochrome]			Up Regulated
mreC	947655	Rod shape-determining protein mreC			Down Regulated
yrA	947657	Uncharacterized fimbrial chaperone yrA	['Amino acid transport and metabolism', 'Coenzyme transport and metabolism', ' Central intermediary metabolism']		Up Regulated
hsfJ	946525	Heat shock protein hsfJ			Up Regulated

yraP	947659 Uncharacterized protein yraP	["DNA replication"]	Up Regulated
dgsA	945510 Protein mlc		Temporarily Down Regulated
entC	945511 Isochorismate synthase entC		Up Regulated
yafK	944910 Uncharacterized protein yafK	[]	Down Regulated
ycaC	945512 Uncharacterized protein ycaC		Up Regulated
miaA	948690 RNA Delta(2)-isopentenylpyrophosphate transferase		Down Regulated
yafN	944920 Uncharacterized protein yafN	["Replication recombination and repair", "RNA related", "Type of regulation", "Protection", "transcription", "regulation of transcription"]	Temporarily Down Regulated
tpA	948409 Triosephosphate isomerase		Temporarily Up Regulated
mutL	948691 DNA mismatch repair protein mutL		Temporarily Down Regulated
rnr	948692 Ribonuclease R		Ambiguous/Unsorted
nsrR	948693 HTH-type transcriptional repressor nsrR		Down Regulated
rlmB	948694 23S rRNA (guanosine-2'-O-) methyltransferase rlmB		Ambiguous/Unsorted
uxaA	947603 Altronate hydrolase		Up Regulated
exuR	947602 Exu regulon transcriptional regulator		Ambiguous/Unsorted
yifC	948699 Uncharacterized protein yifC	["electron transport", "metabolic process"]	Temporarily Up Regulated
sstT	947605 Serine/threonine transporter sstT		Down Regulated
wza	946558 Putative polysaccharide export protein wza		Ambiguous/Unsorted
ygjR	947600 Uncharacterized oxidoreductase ygjR	["Carbohydrate transport and metabolism"]	Up Regulated
cdh	948410 CDP-diacylglycerol pyrophosphatase		Up Regulated
sbp	948411 Sulfate-binding protein		Temporarily Down Regulated
fieF	948413 Ferrous-iron efflux pump fieF		Down Regulated
fpr	948414 Ferredoxin-NADP reductase		Up Regulated
uspD	948415 Universal stress protein D		Up Regulated
dinJ	944914 DNA-damage-inducible protein J		Temporarily Up Regulated
yiiS	948416 UPF0381 protein yiiS		Up Regulated
rraA	948419 Regulator of ribonuclease activity A		Down Regulated
flu	946540 Antigen 43		Up Regulated
yjeF	948685 Uncharacterized protein yjeF	[]	Up Regulated
amiB	948683 N-acetylmuramoyl-L-alanine amidase amiB		Down Regulated
yjeE	948684 UPF0079 ATP-binding protein yjeE		Ambiguous/Unsorted
sbmC	946546 DNA gyrase inhibitory protein		Up Regulated
hfxX	948688 GTP-binding protein hfxX		Ambiguous/Unsorted
yeeD	946539 UPF0033 protein yeeD		Down Regulated
sodA	948403 Superoxide dismutase [Mn]; Superoxide dismutase		Up Regulated
phoE	944926 Outer membrane pore protein E		Temporarily Down Regulated
cpxR	948404 Transcriptional regulatory protein cpxR		Temporarily Down Regulated
rhaD	948401 Rhamnulose-1-phosphate aldolase		Down Regulated
mutS	947206 DNA mismatch repair protein mutS		Ambiguous/Unsorted
pcm	944923 Protein L-isoaspartate O-methyltransferase		Ambiguous/Unsorted
yiiQ	948408 Uncharacterized protein yiiQ	[]	Down Regulated
cpxA	948405 Sensor protein; Sensor protein cpxA		Down Regulated
yiiM	948406 Protein yiiM		Up Regulated
uvrC	947203 UvrABC system protein C		Temporarily Up Regulated
wcaA	946570 Putative colanic acid biosynthesis glycosyl transferase wcaA		Temporarily Down Regulated
cpsG	946574 Phosphomannomutase		Temporarily Down Regulated
yhaJ	947621 Uncharacterized HTH-type transcriptional regulator yhaJ	["Posttranslational modification protein turnover chaperones"]	Down Regulated
yhaK	947620 Pirin-like protein yhaK		Temporarily Down Regulated
tdcE	947623 Keto-acid formate acetyltransferase		Temporarily Down Regulated
ybaL	946576 Inner membrane protein ybaL		Ambiguous/Unsorted
tdcF	947624 Protein tdcF		Up Regulated
metL	948433 Bifunctional aspartokinase/homoserine dehydrogenase 2		Down Regulated
rpoS	947210 RNA polymerase sigma factor rpoS; RNA polymerase sigma factor		Up Regulated
surE	947211 Multifunctional protein surE		Ambiguous/Unsorted
yciS	944936 Inner membrane protein yciS		Temporarily Down Regulated
fsaB	948439 Fructose-6-phosphate aldolase 2		Ambiguous/Unsorted
truD	947214 tRNA pseudouridine synthase D		Ambiguous/Unsorted
cysD	947217 Sulfate adenyltransferase subunit 2		Down Regulated
metB	948434 Cystathione gamma-synthase		Ambiguous/Unsorted
metJ	948435 Met repressor		Up Regulated
rsmA	944939 b0051		Ambiguous/Unsorted
cysN	947219 Sulfate adenyltransferase subunit 1		Down Regulated
rlmF	944938 Ribosomal RNA large subunit methyltransferase F		Down Regulated
ptsA	948437 Multiphosphoryl transfer protein 2		Ambiguous/Unsorted
galF	946560 UTP-glucose-1-phosphate uridylyltransferase		Up Regulated
mdlA	945092 Multidrug resistance-like ATP-binding protein mdlA		Down Regulated

wcaL	946565 Putative colanic acid biosynthesis glycosyltransferase wcaL		Down Regulated
yegH	946566 UPF0053 protein yegH		Temporarily Up Regulated
yqjG	947615 Uncharacterized protein yqjG	['electron transport']	Up Regulated
yqjD	947614 Uncharacterized protein yqjD	['Cell wall membrane envelope biogenesis', ' Macromolecules cellular constituent biosynthesis']	Ambiguous/Unsorted
ycgR	947609 Uncharacterized protein ycgR		Ambiguous/Unsorted
alpF	948422 Glycerol uptake facilitator protein		Up Regulated
yagX	947606 Uncharacterized protein yagX	['Carbohydrate transport and metabolism', 'Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription']	Ambiguous/Unsorted
zapB	948420 Cell division protein zapB		Up Regulated
cysC	947221 Adenyl-l-sulfate kinase		Down Regulated
hslV	948429 ATP-dependent protease hslV		Ambiguous/Unsorted
ybgF	947227 Uncharacterized protein ybgF		Ambiguous/Unsorted
cytR	948427 HTH-type transcriptional repressor cytR		Temporarily Down Regulated
ftsN	948428 Cell division protein ftsN		Down Regulated
maa	945096 Maltose O-acetyltransferase		Down Regulated
rpmE	948425 50S ribosomal protein L31		Down Regulated
hha	945098 Hemolysin expression-modulating protein		Down Regulated
priA	948426 Primosomal protein N'		Temporarily Up Regulated
glpK	948423 Glycerol kinase		Up Regulated
glpX	948424 Fructose-1,6-bisphosphatase class 2		Down Regulated
smpA	945583 Small protein A		Ambiguous/Unsorted
bamE	945583 Small protein A		Ambiguous/Unsorted
vacJ	945582 Lipoprotein vacJ		Ambiguous/Unsorted
mlaA	945582 Lipoprotein vacJ		Ambiguous/Unsorted
mpaA	945969 Protein mpaA		Ambiguous/Unsorted
hyaB	945580 Hydrogenase-1 large chain		Down Regulated
udk	946597 Uridine kinase		Down Regulated
cyoA	945080 Ubiquinol oxidase subunit 2		Temporarily Down Regulated
yfaL	946595 Uncharacterized protein yfaL		Ambiguous/Unsorted
mtA	944964 Membrane-bound lytic murein transglycosylase A		Down Regulated
hypF	944963 Carbamoyltransferase hypF		Up Regulated
dcd	946593 Deoxycytidine triphosphate deaminase		Up Regulated
rutE	946591 Putative NADH dehydrogenase/NAD(P)H nitroreductase rutE		Temporarily Up Regulated
gfcD	945588 Uncharacterized lipoprotein gfcD		Temporarily Down Regulated
ykgM	944960 50S ribosomal protein L31 type B		Up Regulated
cof	945089 HMP-PP phosphatase		Temporarily Down Regulated
mdlB	945088 Multidrug resistance-like ATP-binding protein mdlB		Temporarily Up Regulated
ygiB	945086 UPF0441 protein ygiB		Down Regulated
lon	945085 ATP-dependent protease La		Up Regulated
clpX	945083 ATP-dependent Clp protease ATP-binding subunit clpX		Down Regulated
ltaE	944955 Low specificity L-threonine aldolase		Ambiguous/Unsorted
clpP	945082 ATP-dependent Clp protease proteolytic subunit		Ambiguous/Unsorted
ydcU	945976 Inner membrane ABC transporter permease protein ydcU		Ambiguous/Unsorted
yddW	945975 Uncharacterized lipoprotein yddW	□	Up Regulated
ycbG	945570 UPF0268 protein ycbG		Temporarily Up Regulated
ompA	945571 Outer membrane protein A		Up Regulated
cusS	945978 Sensor kinase cusS; Sensor protein		Temporarily Up Regulated
ydbK	946587 Probable pyruvate-flavodoxin oxidoreductase		Temporarily Down Regulated
tehB	945979 Tellurite resistance protein tehB		Up Regulated
hspQ	945578 Heat shock protein hspQ		Ambiguous/Unsorted
yneH	944973 Glutaminase 2		Down Regulated
yafV	946585 UPF0012 hydrolase yafV		Up Regulated
yahJ	944976 Uncharacterized protein yahJ	['Amino acid transport and metabolism', 'Inorganic ion transport and metabolism', ' Carbon compound utilization', ' Primary Active Transporter']	Down Regulated
yahK	944975 Uncharacterized zinc-type alcohol dehydrogenase-like protein yahK	['Amino acid transport and metabolism', ' Carbon compound utilization', 'metabolic process']	Up Regulated
ybaY	945070 Uncharacterized lipoprotein ybaY	□	Up Regulated
gsk	946584 inosine-guanosine kinase		Down Regulated
yahL	944970 Uncharacterized protein yahL	□	Up Regulated
mgsA	945574 Methylglyoxal synthase		Ambiguous/Unsorted
scpA	945576 Protein sbm		Temporarily Down Regulated
cpsB	946580 Mannose-1-phosphate guanylyltransferase 1; Mannose-1-phosphate guanylyltransferase		Ambiguous/Unsorted
dedD	944971 Protein dedD		Down Regulated
LeuC	945076 3-isopropylmalate dehydratase large subunit		Ambiguous/Unsorted
rutR	945075 HTH-type transcriptional regulator rutR		Down Regulated
yfjF	945078 UPF0125 protein yfjF; Protein rmfH		Ambiguous/Unsorted
crl	945077 Sigma factor-binding protein crl		Down Regulated
puuB	945072 Gamma-glutamylputrescine oxidoreductase		Down Regulated

ompX	944967	Outer membrane protein X		Up Regulated
priC	945071	Primosomal replication protein N"		Temporarily Down Regulated
tesB	945074	Acyl-CoA thioesterase 2		Down Regulated
ycjY	945988	Uncharacterized protein ycjY	['Amino acid transport and metabolism']	Up Regulated
dmsL	945987	Twin-arginine leader-binding protein dmsD		Down Regulated
ydbD	945983	Uncharacterized protein ydbD	[]	Ambiguous/Unsorted
ftsP	944982	Protein sulf		Down Regulated
ykgF	944980	Uncharacterized electron transport protein ykgF	[]	Temporarily Up Regulated
frmR	944986	Transcriptional repressor frmR		Down Regulated
yahO	944985	Uncharacterized protein yahO	['Building block biosynthesis']	Up Regulated
euthH	944979	Ethanolamine utilization protein euthH		Up Regulated
yeaC	945061	Uncharacterized protein yeaC	[]	Down Regulated
dxs	945060	1-deoxy-D-xylulose-5-phosphate synthase		Ambiguous/Unsorted
thil	945067	Thiamine biosynthesis protein thil		Ambiguous/Unsorted
ydcJ	945991	Uncharacterized protein ydcJ		Up Regulated
panE	945065	2-dehydropantoate 2-reductase		Temporarily Down Regulated
ispA	945064	Geranyltransterase		Ambiguous/Unsorted
xseB	945069	Exodeoxyribonuclease 7 small subunit		Ambiguous/Unsorted
ydcP	945993	Uncharacterized protease ydcP	['amino acid biosynthetic process']	Temporarily Up Regulated
narZ	945999	Respiratory nitrate reductase 2 alpha chain		Ambiguous/Unsorted
ydcH	945997	Uncharacterized protein ydcH	['Channel type Transporters']	Up Regulated
cspG	945591	Cold shock-like protein cspG		Down Regulated
yccF	945594	Inner membrane protein yccF		Down Regulated
pprB	944990	Methylisocitrate lyase		Temporarily Up Regulated
torS	945595	Sensor protein torS; Sensor protein		Down Regulated
codA	944996	Cytosine deaminase; Protein ccdA		Down Regulated
frmA	944988	S-(hydroxymethyl)glutathione dehydrogenase		Temporarily Down Regulated
pyrH	944989	Uridylate kinase		Ambiguous/Unsorted
yajD	945051	Uncharacterized protein yajD	['Primary Active Transporters']	Down Regulated
yajR	945058	Inner membrane transport protein yajR		Temporarily Down Regulated
ispF	945057	2-C-methyl-D-erythritol 2,4-cyclodiphosphate synthase		Ambiguous/Unsorted
McrB	949122	5-methylcytosine-specific restriction enzyme B		Temporarily Up Regulated
secF	949120	Protein-export membrane protein secF		Temporarily Down Regulated
cutA	948660	Divalent-cation tolerance protein cutA		Up Regulated
yjeK	948662	Uncharacterized kamA family protein yjeK	['metabolic process']	Down Regulated
efp	948661	Elongation factor P		Ambiguous/Unsorted
yjeI	948664	Uncharacterized protein yjeI	['cell cycle', 'cell division']	Ambiguous/Unsorted
frdB	948666	Fumarate reductase iron-sulfur subunit		Up Regulated
groL	948665	60 kDa chaperonin		Temporarily Up Regulated
ribF	949129	Riboflavin biosynthesis protein ribF		Ambiguous/Unsorted
frdA	948667	Fumarate reductase flavoprotein subunit		Up Regulated
ampQ	948669	Beta-lactamase		Down Regulated
lipB	945217	Octanoyltransferase		Down Regulated
entH	945215	Esterase ybdB		Up Regulated
ybdH	945212	Uncharacterized oxidoreductase ybdH	[]	Down Regulated
ybdL	945211	Aminotransferase ybdL		Down Regulated
blc	948670	Outer membrane lipoprotein blc		Up Regulated
orn	948675	Oligoribonuclease		Ambiguous/Unsorted
rcsF	949113	Protein rcsF		Ambiguous/Unsorted
yaeB	949112	UPF0066 protein yaeB		Ambiguous/Unsorted
psd	948673	Phosphatidylserine decarboxylase proenzyme		Ambiguous/Unsorted
poxA	948672	Putative lysyl-tRNA synthetase		Ambiguous/Unsorted
yjeM	948679	Inner membrane transporter yjeM		Up Regulated
yjeP	948676	Uncharacterized mscS family protein yjeP	['purine nucleotide biosynthetic process', 'biosynthetic process']	Ambiguous/Unsorted
lipA	945227	Lipoyl synthase		Ambiguous/Unsorted
plsC	947496	1-acyl-sn-glycerol-3-phosphate acyltransferase		Temporarily Down Regulated
uspG	945229	Universal stress protein G		Up Regulated
dkgA	947495	2,5-diketo-D-gluconic acid reductase A		Up Regulated
tatE	945228	Sec-independent protein translocase protein tatE		Ambiguous/Unsorted
tdcA	947494	IHTH-type transcriptional regulator tdcA		Up Regulated
yqhD	947493	Alcohol dehydrogenase yqhD		Up Regulated
dacA	945222	D-alanyl-D-alanine carboxypeptidase dacA		Down Regulated
ahpC	945225	Alkyl hydroperoxide reductase subunit C		Down Regulated
dsbG	945224	Thiol:disulfide interchange protein dsbG		Down Regulated
folD	945221	Bifunctional protein folD		Up Regulated

ybeD	945220	UPF0250 protein ybeD		Down Regulated
parC	947499	DNA topoisomerase 4 subunit A		Ambiguous/Unsorted
dsdX	949103	DsdX permease		Temporarily Down Regula
dcuB	948641	Anaerobic C4-dicarboxylate transporter dcuB		Ambiguous/Unsorted
dsbD	948649	Thiol:disulfide interchange protein dsbD		Temporarily Down Regula
cadA	948643	Lysine decarboxylase, inducible		Up Regulated
nanM	949106	N-acetylneuraminate epimerase		Up Regulated
lysU	948645	Lysyl-tRNA synthetase; Lysyl-tRNA synthetase, heat inducible		Down Regulated
gpr	947480	Uncharacterized protein yghZ		Up Regulated
yghZ	947480	Uncharacterized protein yghZ		Up Regulated
dpiB	945233	Sensor kinase dpiB		Temporarily Up Regulated
rbfC	947482	dTDP-4-dehydrorhamnose 3,5-epimerase		Down Regulated
rlmH	945239	Ribosomal RNA large subunit methyltransferase H		Up Regulated
ybeB	945237	Uncharacterized protein ybeB	□	Up Regulated
citC	945231	[Citrate [pro-3S]-lyase] ligase		Ambiguous/Unsorted
fadR	948652	Fatty acid metabolism regulator protein		Down Regulated
yjdC	948650	HTH-type transcriptional regulator yjdC		Up Regulated
aspA	948658	Aspartate ammonia-lyase		Up Regulated
fxsA	948657	UPF0716 protein fxsA		Up Regulated
yghU	947472	Uncharacterized GST-like protein yghU	□	Ambiguous/Unsorted
holE	947471	DNA polymerase III subunit theta		Temporarily Down Regula
nadD	945248	Nicotinate-nucleotide adenyllyltransferase; Probable nicotinate-nucleotide adenyllyltransferase		Ambiguous/Unsorted
gss	947474	Bifunctional glutathionylspermidine synthetase/amidase		Down Regulated
gsp	947474	Bifunctional glutathionylspermidine synthetase/amidase		Down Regulated
glcG	947473	Protein glcG		Up Regulated
yqhA	947479	UPF0114 protein yqhA		Up Regulated
yghA	947478	Uncharacterized oxidoreductase yghA	□	Up Regulated
ripA	945241	Rare lipoprotein A		Temporarily Down Regula
mrdA	945240	Penicillin-binding protein 2		Down Regulated
yjdM	948621	Protein phnA		Up Regulated
yjdN	948622	Protein phnB		Up Regulated
proP	948626	Proline/betaine transporter		Down Regulated
ybeL	945252	Uncharacterized protein ybeL	□	Up Regulated
fluC	945250	Iron(3+)-hydroxamate import ATP-binding protein fluC		Ambiguous/Unsorted
slp	948022	Outer membrane protein slp		Up Regulated
serA	945258	D-3-phosphoglycerate dehydrogenase		Ambiguous/Unsorted
cmtA	945256	PTS system mannitol-specific cryptic EII _{CB} component		Ambiguous/Unsorted
adiA	948638	Biodegradative arginine decarboxylase		Ambiguous/Unsorted
melR	948637	Melibiose operon regulatory protein		Ambiguous/Unsorted
dctA	948039	C4-dicarboxylate transport protein; Aerobic C4-dicarboxylate transport protein		Up Regulated
miaB	945260	(Dimethylallyl)adenosine tRNA methylthiotransferase miaB		Down Regulated
ubif	945261	2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase		Down Regulated
yhjE	948032	Inner membrane metabolite transport protein yhjE		Down Regulated
yhjD	948033	Inner membrane protein yhjD		Ambiguous/Unsorted
treF	948037	Cytoplasmic trehalase		Up Regulated
yhjC	948035	Uncharacterized HTH-type transcriptional regulator yhjC	["Transcription", ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Ambiguous/Unsorted
rpiR	948603	HTH-type transcriptional regulator rpiR		Down Regulated
yeCJ	946388	Uncharacterized protein yecJ	□	Ambiguous/Unsorted
torZ	946389	Trimethylamine-N-oxide reductase 2		Temporarily Up Regulated
phnJ	948606	Protein phnJ		Ambiguous/Unsorted
phnP	948600	Protein phnP		Ambiguous/Unsorted
rpiB	948602	Ribose-5-phosphate isomerase B		Down Regulated
cmoA	946380	tRNA (cmo5U34)-methyltransferase		Ambiguous/Unsorted
yeC	946386	Uncharacterized protein yecR	["Inorganic ion transport and metabolism", ' Adaptation to stress', 'iron ion transport']	Down Regulated
cmoE	946387	tRNA (mo5U34)-methyltransferase		Down Regulated
yeCD	946384	Isochorismatase family protein yecD; Uncharacterized isochorismatase	□	Temporarily Up Regulated
pitA	948009	Low-affinity inorganic phosphate transporter 1		Down Regulated
seqA	945272	Protein seqA		Ambiguous/Unsorted
yhiQ	948005	UPF0341 protein yhiQ		Ambiguous/Unsorted
rbfB	945276	dTDP-glucose 4,6-dehydratase		Down Regulated
erfK	945273	Protein erfK/srfK		Ambiguous/Unsorted
uspA	948007	Universal stress protein A		Ambiguous/Unsorted
iscR	945279	HTH-type transcriptional regulator iscR		Down Regulated
yhl	948003	Uncharacterized protein yhl	[" Protection"]	Temporarily Up Regulated
trmJ	948610	tRNA (cytidine/uridine-2'-O)-methyltransferase trmJ		Down Regulated

flhB	946391	Flagellar biosynthetic protein flhB		Down Regulated
cheZ	946392	Chemotaxis protein cheZ		Up Regulated
cheB	946394	Chemotaxis response regulator protein-glutamate methyltransferase		Down Regulated
cheR	946396	Chemotaxis protein methyltransferase		Temporarily Up Regulated
tap	946397	Methyl-accepting chemotaxis protein IV		Ambiguous/Unsorted
mprA	945282	Transcriptional repressor mprA		Ambiguous/Unsorted
arsC	948018	Arsenate reductase		Temporarily Up Regulated
yhiD	948019	Uncharacterized protein yhiD	□	Ambiguous/Unsorted
nagC	945285	N-acetylglucosamine repressor		Down Regulated
flhA	946390	Flagellar biosynthesis protein flhA		Down Regulated
yhiR	948012	Uncharacterized protein yhiR	□	Ambiguous/Unsorted
phoH	948010	Protein phoH		Temporarily Up Regulated
dut	948607	Deoxyuridine 5'-triphosphate nucleotidohydrolase		Ambiguous/Unsorted
dppD	948065	Dipeptide transport ATP-binding protein dppD		Down Regulated
dppB	948063	Dipeptide transport system permease protein dppB		Ambiguous/Unsorted
eptB	948068	b3546; ECS88_3965; ECIAI39_4054; EC55989_3997; E2348C_3793; ECED1_4224; ECUMN_4058; ECDH10B_3725; ECIAI1_3705		Temporarily Down Regulated
gabT	948067	4-aminobutyrate aminotransferase		Up Regulated
yfeD	946865	Uncharacterized protein yfeD	□	Up Regulated
yejO	946867	b2190; E2348C_2336; ECDH10B_2348; Z3449; ECIAI39_2330; APEC01_4367; UTI89_C2469; EC55989_2444; EC55989_2445; ECUMN_2527; ECIAI1_2272; ECIAI1_2273		Ambiguous/Unsorted
yfeA	946864	Uncharacterized protein yfeA	["Signal transduction mechanisms", "Type of regulation", "two component signal transduction system phosphorelay", "regulation of tra	Down Regulated
gabD	948060	Succinate-semialdehyde dehydrogenase [NADP+]		Up Regulated
yiaD	948075	Inner membrane lipoprotein yiaD		Up Regulated
csiD	948076	Protein csiD		Ambiguous/Unsorted
yfeK	946876	Uncharacterized protein yfeK	["Defense mechanisms", "Primary Active Transporters", "Protection"]	Down Regulated
cspA	948070	Cold shock protein cspA		Down Regulated
yiaF	948072	Uncharacterized protein yiaF	["Carbohydrate transport and metabolism", "Carbon compound utilization", "phosphoenolpyruvate dependent sugar phosphotransfера	Temporarily Up Regulated
yhjK	948048	c4341; EC55989_3976; ECDH10B_3706; APEC01_2919; ECIAI1_3680; b3529; ECIAI39_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771		Temporarily Up Regulated
bcsZ	948046	Endoglucanase		Up Regulated
bcsB	948045	Cyclic di-GMP-binding protein		Ambiguous/Unsorted
crr	946880	Glucose-specific phosphotransferase enzyme IIA component		Up Regulated
yhjG	948043	Uncharacterized protein yhjG	["Lipid transport and metabolism"]	Temporarily Down Regulated
pdxK	946881	Pyridoxine kinase		Down Regulated
kdgK	948041	2-dehydro-3-deoxygluconokinase		Ambiguous/Unsorted
ptsH	946886	Phosphocarrier protein HPr		Temporarily Down Regulated
yfeS	946887	Uncharacterized protein yfeS	□	Ambiguous/Unsorted
cysM	946888	Cysteine synthase B; Cysteine synthase		Down Regulated
cysA	946889	Sulfate/thiosulfate import ATP-binding protein cysA		Down Regulated
yhjJ	948040	Protein yhjJ		Ambiguous/Unsorted
dppF	948056	Dipeptide transport ATP-binding protein dppF		Down Regulated
bcsG	948058	Uncharacterized protein yhjU		Temporarily Up Regulated
murQ	946893	N-acetylmuramic acid 6-phosphate etherase		Ambiguous/Unsorted
csiR	948055	Uncharacterized HTH-type transcriptional regulator ygaE		Temporarily Up Regulated
nupC	946895	Nucleoside permease nupC		Down Regulated
ucpA	946898	Oxidoreductase ucpA		Up Regulated
bcsE	948050	Uncharacterized protein yhjS		Ambiguous/Unsorted
fadL	946820	Long-chain fatty acid transport protein		Up Regulated
sixA	946815	Phosphohistidine phosphatase sixA		Down Regulated
fecD	946816	Fe(3+) dicitrate transport system permease protein fecD		Down Regulated
emrY	946835	Multidrug resistance protein Y		Down Regulated
efeO	945603	UPF0409 protein ycdO		Up Regulated
putP	945602	Sodium/proline symporter		Ambiguous/Unsorted
yceA	945601	UPF0176 protein yceA		Down Regulated
putA	945600	Bifunctional protein putA		Down Regulated
frc	946842	Formyl-coenzyme A transferase		Down Regulated
evgS	946844	Sensor protein evgS; Sensor protein		Ambiguous/Unsorted
malS	948088	Alpha-amylase		Down Regulated
xvir	948086	Xylose operon regulatory protein		Ambiguous/Unsorted
yiaJ	948084	HTH-type transcriptional regulator yiaJ		Down Regulated
dsdA	946837	D-serine dehydratase; D-serine dehydratase 1		Up Regulated
fecB	946838	Fe(3+) dicitrate-binding periplasmic protein		Temporarily Up Regulated
fecI	946839	Probable RNA polymerase sigma factor fecI; RNA polymerase sigma factor		Ambiguous/Unsorted
fryA	946852	Multiphosphoryl transfer protein 1		Up Regulated
yfdZ	946850	Uncharacterized aminotransferase yfdZ	□	Down Regulated
yfeC	946857	Uncharacterized protein yfeC	□	Up Regulated
fepC	945201	Ferric enterobactin transport ATP-binding protein fepC		Up Regulated

strR	945207 Side tail fiber protein homolog from lambda prophage Rac		Ambiguous/Unsorted
yceM	945204 Virulence factor mviM homolog		Temporarily Down Regulated
xyIF	948090 D-xylose-binding periplasmic protein		Up Regulated
lpcA	949134 Phosphoheptose isomerase		Ambiguous/Unsorted
lpxP	946847 Protein ddg		Up Regulated
secD	949133 Protein-export membrane protein secD		Ambiguous/Unsorted
tgt	949130 Queuine tRNA-ribosyltransferase		Ambiguous/Unsorted
malZ	949131 Maltodextrin glucosidase		Ambiguous/Unsorted
leuD	945642 3-isopropylmalate dehydratase small subunit		Ambiguous/Unsorted
flgL	945646 Flagellar hook-associated protein 3		Down Regulated
flgG	945647 Flagellar basal-body rod protein flgG		Down Regulated
ftnA	946410 Ferritin-1		Temporarily Down Regulated
yecM	946415 Protein yecM		Temporarily Up Regulated
ybeX	946417 Magnesium and cobalt efflux protein corC		Down Regulated
ftnB	946407 Ferritin-like protein 2		Ambiguous/Unsorted
araG	946408 Arabinose import ATP-binding protein araG		Ambiguous/Unsorted
araF	946409 L-arabinose-binding periplasmic protein		Up Regulated
rIuC	945637 Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase C		Ambiguous/Unsorted
ydcS	946005 Putative ABC transporter periplasmic-binding protein ydcS		Up Regulated
flgF	945639 Flagellar basal-body rod protein flgF		Down Regulated
yncE	946006 Uncharacterized protein yncE	["Translation ribosomal structure and biogenesis", "rRNA processing"]	Up Regulated
ydcT	946007 Uncharacterized ABC transporter ATP-binding protein ydct		Temporarily Up Regulated
yceF	945631 Maf-like protein yceF 1; Maf-like protein ycef		Ambiguous/Unsorted
yacG	945630 UPF0243 zinc-binding protein yacG		Up Regulated
flgE	945636 Flagellar hook protein flgE		Down Regulated
yceH	945633 UPF0502 protein yceH		Up Regulated
flgN	945634 Flagella synthesis protein flgN		Ambiguous/Unsorted
otsA	946405 Alpha,alpha-trehalose-phosphate synthase [UDP-forming]		Up Regulated
uspC	946404 Universal stress protein C		Up Regulated
yncB	946012 Putative NADP-dependent oxidoreductase yncB		Up Regulated
ycjG	946013 Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b1325; UTI89_C1596; E2348C_1518; ECIAI1_1350; c1797; APEC01_478; ECS88_1467; ECIAI39_1677; EC55989_1489		Up Regulated
araB	946017 Ribulokinase		Up Regulated
yncD	946015 Probable tonB-dependent receptor yncD		Down Regulated
aroP	946018 Aromatic amino acid transport protein aroP		Temporarily Down Regulated
ansP	946019 L-asparagine permease		Temporarily Down Regulated
yfcM	946807 Uncharacterized protein yfcM	["Cell wall membrane envelope biogenesis"]	Down Regulated
opgH	945624 Glucans biosynthesis glucosyltransferase H		Ambiguous/Unsorted
yaeQ	946809 Uncharacterized protein yaeQ	["Inorganic ion transport and metabolism", "DNA repair", "DNA recombination", "response to DNA damage stimulus"]	Down Regulated
yfcL	946804 Uncharacterized protein yfcL	["Cell wall membrane envelope biogenesis", "amino acid biosynthetic process", "aromatic amino acid family biosynthetic process"]	Down Regulated
yibG	946803 b0502; ECDH10B_0458		Up Regulated
ribD	945620 Riboflavin biosynthesis protein ribD		Up Regulated
glnP	945621 Glutamine transport system permease protein glnP		Down Regulated
mepA	946812 Penicillin-insensitive murein endopeptidase		Down Regulated
cyoB	945615 Ubiquinol oxidase subunit 1		Temporarily Down Regulated
rplY	945618 50S ribosomal protein L25		Down Regulated
yfjG	945614 UPF0083 protein yfjG		Down Regulated
yhhJ	947991 Inner membrane transport permease yhhJ		Temporarily Down Regulated
msyB	945612 Acidic protein msyB		Up Regulated
rbpA	947998 Uncharacterized ABC transporter ATP-binding protein yhiH		Down Regulated
rhsB	947994 Protein rhsB		Down Regulated
nikR	947995 Nickel-responsive regulator		Temporarily Down Regulated
yhiN	947996 Uncharacterized protein yhiN	[]	Up Regulated
slyB	946801 Outer membrane lipoprotein slyB		Ambiguous/Unsorted
mnm	946800 tRNA 5-methylaminomethyl-2-thiouridine biosynthesis bifunctional protein mnmC		Temporarily Up Regulated
mrfd	945681 Transcription-repair-coupling factor		Ambiguous/Unsorted
pspF	945683 Psp operon transcriptional activator		Temporarily Up Regulated
potD	945682 Spermidine/putrescine-binding periplasmic protein		Up Regulated
cobB	945687 NAD-dependent deacetylase		Up Regulated
panD	945686 Aspartate 1-decarboxylase		Down Regulated
nudJ	945689 Phosphatase nudJ		Down Regulated
aldA	945672 Lactaldehyde dehydrogenase		Up Regulated
nagZ	945671 Beta-hexosaminidase		Temporarily Up Regulated
lolD	945670 Lipoprotein-releasing system ATP-binding protein lolD		Ambiguous/Unsorted
ycfP	945676 UPF0227 protein ycfP		Ambiguous/Unsorted
yeaO	945675 Uncharacterized protein yeaO	["Primary Active Transporters", "electron transport"]	Up Regulated

loIC	945673 Lipoprotein-releasing system transmembrane protein loIC		Ambiguous/Unsorted
flgB	945678 Flagellar basal-body rod protein flgB		Down Regulated
yagU	945677 Inner membrane protein yagU		Ambiguous/Unsorted
parE	947501 DNA topoisomerase 4 subunit B		Down Regulated
ybiX	947502 PKHD-type hydroxylase ybiX		Up Regulated
ygiN	947506 Probable quinol monooxygenase ygiN		Up Regulated
holB	945661 DNA polymerase III subunit delta'		Ambiguous/Unsorted
ycgG	945660 Uncharacterized protein ycgG	□	Temporally Up Regulated
pck	945667 Phosphoenolpyruvate carboxykinase [ATP]		Up Regulated
ycfS	945666 Uncharacterized protein ycfS	□	Down Regulated
cspD	945669 Cold shock-like protein cspD		Temporally Up Regulated
tmk	945663 Thymidylate kinase		Down Regulated
lolE	945665 Lipoprotein-releasing system transmembrane protein lolE		Ambiguous/Unsorted
rpmF	945657 50S ribosomal protein L32		Down Regulated
ycfH	945656 Uncharacterized deoxyribonuclease ycfH	□	Down Regulated
emtA	945655 Endo-type membrane-bound lytic murein transglycosylase A		Down Regulated
deoD	945654 Purine nucleoside phosphorylase deoD-type		Up Regulated
pqiB	945653 Paraquat-inducible protein B		Temporally Down Regulated
pspE	945652 Phage shock protein E		Temporally Up Regulated
flgK	945648 Flagellar hook-associated protein 1		Down Regulated
fhuE	945649 FhuE receptor		Temporally Up Regulated
gntK	947937 Thermoresistant gluconokinase		Temporally Up Regulated
glpG	947936 Rhomboid protease glpG		Ambiguous/Unsorted
cusB	945189 Cation efflux system protein cusB		Down Regulated
glgS	947533 Glycogen synthesis protein glgS		Ambiguous/Unsorted
entF	945184 Enterobactin synthetase component F		Up Regulated
hemF	947532 Ferrochelatase		Up Regulated
fes	945181 Enterochelin esterase		Ambiguous/Unsorted
flgI	947534 Flagellar P-ring protein		Down Regulated
cusF	945188 Cation efflux system protein cusF		Down Regulated
ompT	945185 Protease 7		Up Regulated
feoB	947538 Ferrienterobactin-binding periplasmic protein		Up Regulated
yeeN	946493 UPF0082 protein yeeN		Down Regulated
feoE	945180 Ferric enterobactin transport protein feoE		Temporally Up Regulated
shiA	946495 Shikimate transporter		Temporally Up Regulated
glgB	947940 1,4-alpha-glucan-branched enzyme		Ambiguous/Unsorted
ydhJ	946499 Uncharacterized protein ydhJ		Ambiguous/Unsorted
glgX	947941 Glycogen debranching enzyme		Temporally Up Regulated
yeeJ	946498 Uncharacterized protein yeeJ		Temporally Up Regulated
glgC	947942 Glucose-1-phosphate adenylyltransferase		Up Regulated
yhhX	947944 Uncharacterized oxidoreductase yhhX	□	Ambiguous/Unsorted
yhhW	947945 Protein yhhW		Ambiguous/Unsorted
gntR	947946 HTH-type transcriptional regulator gntR		Ambiguous/Unsorted
rtcR	947928 Transcriptional regulatory protein rtcR		Ambiguous/Unsorted
glpR	947926 Glycerol-3-phosphate regulon repressor		Ambiguous/Unsorted
ahpF	947540 Alkyl hydroperoxide reductase subunit F		Ambiguous/Unsorted
rtcB	947929 Protein rtcB		Temporally Up Regulated
rnk	947546 Regulator of nucleoside diphosphate kinase		Ambiguous/Unsorted
foiB	947544 Dihydronopterin aldolase		Ambiguous/Unsorted
quuD	945177 Antitermination protein Q homolog from lambdoid prophage DLP12		Temporally Down Regulated
yodA	946480 Metal-binding protein yodA		Up Regulated
zinT	946480 Metal-binding protein yodA		Up Regulated
ydiQ	946482 Putative electron transfer flavoprotein subunit ydiQ		Temporally Up Regulated
yedY	946484 UPF0190 protein yedY		Down Regulated
hiuH	946485 5-hydroxyisourate hydrolase		Ambiguous/Unsorted
dam	947930 Protein damX		Ambiguous/Unsorted
yedV	946487 Sensor protein; Putative sensor-like histidine kinase yedV		Ambiguous/Unsorted
glgP	947931 Phosphorylase; Glycogen phosphorylase		Ambiguous/Unsorted
mtfA	946489 Protein mtfA		Up Regulated
glpD	947934 Aerobic glycerol-3-phosphate dehydrogenase		Up Regulated
glpE	947935 Thiosulfate sulfurtransferase glpE		Down Regulated
glgA	947932 Glycogen synthase		Ambiguous/Unsorted
feoB	947919 Ferrous iron transport protein B		Temporally Up Regulated
cpdA	947515 Protein icc		Down Regulated
araA	947511 L-arabinose isomerase		Up Regulated

fhuD	947510 Iron(3+)-hydroxamate-binding protein fhuD		Up Regulated
ykgH	947513 Uncharacterized protein ykgH	□	Ambiguous/Unsorted
yafC	947507 Uncharacterized HTH-type transcriptional regulator yafC	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated
malT	947921 HTH-type transcriptional regulator malT		Down Regulated
malQ	947923 4-alpha-glucantransferase		Temporarily Down Regula
antT	947924 High-affinity gluconate transporter		Down Regulated
lptA	947920 Lipopolysaccharide export system protein lptA		Down Regulated
feoA	947909 Ferrous iron transport protein A		Ambiguous/Unsorted
mrcA	947907 Penicillin-binding protein 1A		Down Regulated
nudE	947906 ADP compounds hydrolase nudE		Ambiguous/Unsorted
yrfF	947905 Putative membrane protein igaA homolog		Down Regulated
yrfG	947904 Uncharacterized protein yrfG	[' Adaptation to stress', 'protein folding']	Down Regulated
elbB	947903 Enhancing lycopene biosynthesis protein 2		Ambiguous/Unsorted
mhpA	945197 3-(3-hydroxy-phenyl)propionate/3-hydroxycinnamic acid hydroxylase		Ambiguous/Unsorted
ppcC	947528 2-methylcitrate synthase		Ambiguous/Unsorted
ygcF	947527 Uncharacterized protein ygcF	□	Down Regulated
iscX	945196 Protein iscX		Down Regulated
ribB	947526 3,4-dihydroxy-2-butanone 4-phosphate synthase		Ambiguous/Unsorted
pheP	945199 Phenylalanine-specific permease		Down Regulated
atoD	947525 Acetate CoA-transferase subunit alpha		Up Regulated
thrC	945198 Threonine synthase		Down Regulated
feP	945193 Ferrienterobactin receptor		Up Regulated
yqiC	947524 Uncharacterized protein yqiC	□	Up Regulated
ygiL	947522 Uncharacterized fimbrial-like protein ygiL	['Replication recombination and repair']	Ambiguous/Unsorted
rpmA	945190 50S ribosomal protein L27		Down Regulated
cusA	945191 Cation efflux system protein cusA		Temporarily Up Regulated
ycjN	945696 Putative ABC transporter periplasmic-binding protein ycjN		Ambiguous/Unsorted
yqiB	947518 Uncharacterized protein yqiB	['Replication recombination and repair']	Down Regulated
nudF	947519 ADP-ribose pyrophosphatase		Down Regulated
hsIR	947912 Heat shock protein 15		Ambiguous/Unsorted
potB	945692 Spermidine/putrescine transport system permease protein potB		Down Regulated
ompR	947913 Transcriptional regulatory protein ompR		Ambiguous/Unsorted
yrbL	947910 Uncharacterized protein yrbL	['Carbohydrate transport and metabolism', ' Macromolecules cellular constituent biosynthesis', ' Central intermediary metabolism']	Down Regulated
hfd	945693 EC1A1_1170; ECS88_1147; ECDH10B_1204; b1132; ECIAI39_2005; ECED1_1276; E2348C_1273; ECUMN_1376; EC55989_1245		Temporarily Down Regula
yhgF	947911 Protein yhgF		Down Regulated
rpsU	947577 30S ribosomal protein S21		Down Regulated
dnaG	947570 DNA primase		Up Regulated
ypfH	947571 Esterase ypfH		Up Regulated
cbpA	947572 Curved DNA-binding protein		Up Regulated
holA	947573 DNA polymerase III subunit delta		Down Regulated
btuF	947574 Vitamin B12-binding protein		Ambiguous/Unsorted
dcrB	947983 Protein dcrB		Ambiguous/Unsorted
thID	946459 Phosphomethylpyrimidine kinase		Down Regulated
nikD	947989 Nickel import ATP-binding protein nikD		Ambiguous/Unsorted
alsE	948595 D-allulose-6-phosphate 3-epimerase		Ambiguous/Unsorted
yjcS	948597 Uncharacterized protein yjcS	□	Up Regulated
glpR	948591 Proton glutamate symport protein		Down Regulated
argS	946452 Arginyl-tRNA synthetase		Ambiguous/Unsorted
ribE	946453 6,7-dimethyl-8-ribityllumazine synthase		Up Regulated
rlmG	947589 Ribosomal RNA large subunit methyltransferase G		Down Regulated
gutQ	947587 Protein gutQ		Up Regulated
yqjH	947582 Uncharacterized protein yqjH	[' Adaptation to stress', 'ion transport', 'iron ion transport']	Up Regulated
ftsX	947969 Cell division protein ftsX		Ambiguous/Unsorted
nuoK	947580 NADH-quinone oxidoreductase subunit K		Down Regulated
ebgR	947586 HTH-type transcriptional regulator ebgR		Temporarily Up Regulated
ebgA	947583 Evolved beta-galactosidase subunit alpha		Ambiguous/Unsorted
yqjL	947584 Uncharacterized protein yqjL	□	Temporarily Up Regulated
yhhM	947975 Uncharacterized protein yhhM	□	Temporarily Up Regulated
zntA	947972 Lead, cadmium, zinc and mercury-transporting ATPase		Down Regulated
acpT	947979 4'-phosphopantetheinyl transferase acpT		Up Regulated
yjcO	948586 Uncharacterized protein yjcO	□	Temporarily Up Regulated
hemL	948587 Uroporphyrinogen-III synthase		Down Regulated
rdgC	948585 Recombination-associated protein rdgC		Ambiguous/Unsorted
livJ	947971 Leu/Ile/Val-binding protein		Up Regulated
mdtO	948582 Multidrug resistance protein mdtO		Down Regulated

rpoH	947970	RNA polymerase sigma-32 factor; RNA polymerase sigma factor		Temporarily Down Regulated
dnaQ	946441	DNA polymerase III subunit epsilon		Down Regulated
ygiF	947554	Uncharacterized protein ygiF	['Amino acid transport and metabolism']	Down Regulated
glnE	947552	Glutamate-ammonia-ligase adenylyltransferase		Ambiguous/Unsorted
cca	947553	Multifunctional CCA protein		Up Regulated
yrbA	947958	Uncharacterized protein yrbA	['Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid biosynthetic process']	Ambiguous/Unsorted
livM	947966	High-affinity branched-chain amino acid transport system permease protein livM		Temporarily Up Regulated
yjcE	948577	Uncharacterized Na(+)/H(+) exchanger yjcE	['RNA processing']	Down Regulated
ydgD	946436	Uncharacterized serine protease ydgD	['response to stress']	Up Regulated
ftsE	947968	Cell division ATP-binding protein ftsE		Down Regulated
ugpB	947962	Sn-glycerol-3-phosphate-binding periplasmic protein ugpB		Up Regulated
livF	947961	High-affinity branched-chain amino acid transport ATP-binding protein livF		Ambiguous/Unsorted
yfdE	946432	Uncharacterized protein yfdE	['metabolic process']	Temporarily Down Regulated
livK	947964	Leucine-specific-binding protein		Ambiguous/Unsorted
yhhK	947963	Uncharacterized protein yhhK	[' Carbon compound utilization', ' Metabolism of other compounds']	Down Regulated
ybeY	946430	Putative metalloprotease ybeY		Ambiguous/Unsorted
ssb	948570	Single-stranded DNA-binding protein		Ambiguous/Unsorted
nrfA	948571	Cytochrome c-552		Ambiguous/Unsorted
acs	948572	Acetyl-coenzyme A synthetase		Up Regulated
azoR	947569	FMN-dependent NADH-azoreductase		Ambiguous/Unsorted
rpoD	947567	RNA polymerase sigma factor rpoD; RNA polymerase sigma factor		Temporarily Up Regulated
ttdR	947562	HTH-type transcriptional activator ttdR		Ambiguous/Unsorted
yfcS	946418	Uncharacterized fimbrial chaperone yfcS	['Cell motility', 'Intracellular trafficking secretion and vesicular transport', ' Macromolecules cellular constituent biosynthesis']	Ambiguous/Unsorted
mug	947560	G/U mismatch-specific DNA glycosylase		Temporarily Up Regulated
ggt	947947	Gamma-glutamyltranspeptidase		Temporarily Down Regulated
yrhB	947948	Uncharacterized protein yrhB	[]	Down Regulated
yhhA	947956	Uncharacterized protein yhhA	['Cell cycle control cell division chromosome partitioning', ' Cell division', 'cell cycle', 'cell division']	Temporarily Up Regulated
fecA	946427	Fe(3+) dicarboxylate transport protein fecA		Up Regulated
ugpQ	947955	Glycerophosphoryl diester phosphodiesterase		Ambiguous/Unsorted
yrbB	947954	Uncharacterized protein yrbB	['Cell wall membrane envelope biogenesis', ' Macromolecules cellular constituent biosynthesis', 'cell cycle', 'cell division']	Ambiguous/Unsorted
mlaB	947954	Uncharacterized protein yrbB		Ambiguous/Unsorted
ugpC	947953	Sn-glycerol-3-phosphate import ATP-binding protein ugpC		Ambiguous/Unsorted
uvrY	946424	Response regulator uvrY		Ambiguous/Unsorted
yjbR	948560	Uncharacterized protein yjbR	['Amino acid transport and metabolism', ' Central intermediary metabolism', 'amino acid biosynthetic process', 'biosynthetic process']	Up Regulated
alr	948564	Alanine racemase, biosynthetic; Alanine racemase		Up Regulated
yjcD	948565	Putative permease yjcD		Temporarily Up Regulated
aphA	948562	Class B acid phosphatase		Down Regulated
xylIE	948529	D-xylose-proton symporter		Ambiguous/Unsorted
hepA	948523	RNA polymerase-associated protein rapA		Ambiguous/Unsorted
rapA	948523	RNA polymerase-associated protein rapA		Ambiguous/Unsorted
iclR	948524	Acetate operon repressor		Ambiguous/Unsorted
yjbB	948521	Uncharacterized protein yjbB	[]	Up Regulated
pepE	948520	Peptidase E		Ambiguous/Unsorted
ubiE	948926	Ubiquinone/menaquinone biosynthesis methyltransferase ubiE		Ambiguous/Unsorted
recJ	947367	Single-stranded-DNA-specific exonuclease recJ		Temporarily Up Regulated
prfB	947369	Peptide chain release factor 2		Ambiguous/Unsorted
ycjC	948930	Uncharacterized protein ycjC	[' Macromolecules cellular constituent biosynthesis']	Up Regulated
nadA	945351	Quinolinate synthetase A		Down Regulated
galT	945357	Galactose-1-phosphate uridylyltransferase		Temporarily Up Regulated
ybgS	945356	Uncharacterized protein ybgS	['Inorganic ion transport and metabolism', ' Electrochemical potential driven transporters', 'ion transport']	Temporarily Up Regulated
xerD	947362	Tyrosine recombinase xerD		Down Regulated
galE	945354	UDP-glucose 4-epimerase		Ambiguous/Unsorted
fldB	947361	Flavodoxin-2		Down Regulated
rluF	948519	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase F		Temporarily Up Regulated
ispB	947364	Octaprenyl-diphosphate synthase		Temporarily Down Regulated
dsbC	947363	Thiol:disulfide interchange protein dsbC		Up Regulated
galK	945358	Galactokinase		Up Regulated
malE	948538	Maltose-binding periplasmic protein		Up Regulated
malK	948537	Maltose/maltodextrin import ATP-binding protein malK		Up Regulated
ycfM	948536	Uncharacterized protein ycfM	['Cell wall membrane envelope biogenesis']	Up Regulated
malF	948532	Maltose transport system permease protein malF		Up Regulated
yjjX	948919	UPF0244 protein yjjX		Ambiguous/Unsorted
ytjC	948918	Probable phosphoglycerate mutase gpmB		Down Regulated
trpR	948917	Trp operon repressor		Up Regulated
rob	948916	Right origin-binding protein		Ambiguous/Unsorted

creB	948922	Transcriptional regulatory protein creB		Temporarily Up Regulated
mocA	947356	Uncharacterized protein ygfJ		Ambiguous/Unsorted
ygfJ	947356	Uncharacterized protein ygfJ	['electron transport']	Ambiguous/Unsorted
creA	948920	Protein creA		Ambiguous/Unsorted
modC	945362	Molybdenum import ATP-binding protein modC		Temporarily Up Regulated
modD	945364	Molybdate-binding periplasmic protein		Up Regulated
modF	945368	Putative molybdenum transport ATP-binding protein modF		Temporarily Down Regulated
qseB	945369	Transcriptional regulatory protein qseB		Down Regulated
ubiC	948545	Chorismate--pyruvate lyase		Down Regulated
lexA	948544	LexA repressor		Ambiguous/Unsorted
malM	948547	Maltose operon periplasmic protein		Temporarily Up Regulated
yqfB	947380	UPF0267 protein yqfB		Temporarily Up Regulated
hinT	948549	HIT-like protein hinT		Up Regulated
rpsP	947103	30S ribosomal protein S16		Down Regulated
lamB	948548	Maltoporin		Up Regulated
yfiL	947106	Uncharacterized protein yfiL	['Replication recombination and repair', 'DNA recombination']	Up Regulated
recN	947105	DNA repair protein recN		Up Regulated
mtn	948542	5'-methylthioadenosine/S-adenosylhomocysteine nucleosidase		Ambiguous/Unsorted
aldB	948104	Aldehyde dehydrogenase B		Up Regulated
yagT	945330	Putative xanthine dehydrogenase yagT iron-sulfur-binding subunit		Up Regulated
paoA	945330	Putative xanthine dehydrogenase yagT iron-sulfur-binding subunit		Up Regulated
yiaU	948107	Uncharacterized HTH-type transcriptional regulator yiaU	[]	Temporarily Up Regulated
visC	947389	Protein visC		Temporarily Up Regulated
chbB	945339	N,N'-diacetylchitobiose-specific phosphotransferase enzyme IIB component		Up Regulated
ubiH	947388	2-octaprenyl-6-methoxyphenol hydroxylase		Down Regulated
ybbO	945337	Uncharacterized oxidoreductase ybbO	[]	Ambiguous/Unsorted
thiL	947387	Thiamine-monophosphate kinase		Down Regulated
ygfY	947382	UPF0350 protein ygfY		Ambiguous/Unsorted
sapF	945335	Peptide transport system ATP-binding protein sapF		Ambiguous/Unsorted
lyxK	948101	L-xylulose/3-keto-L-gulonate kinase		Up Regulated
allR	945333	HTH-type transcriptional repressor allR		Ambiguous/Unsorted
selB	948103	Selenocysteine-specific elongation factor		Down Regulated
cueR	945332	HTH-type transcriptional regulator cueR		Ambiguous/Unsorted
aegA	947383	Protein aegA		Ambiguous/Unsorted
dusA	948558	tRNA-dihydrouridine synthase A		Ambiguous/Unsorted
qorA	948556	Quinone oxidoreductase		Ambiguous/Unsorted
dnaB	948555	Replicative DNA helicase		Ambiguous/Unsorted
yjbJ	948553	UPF0337 protein yjbJ		Up Regulated
zur	948552	Zinc uptake regulation protein		Down Regulated
sriR	948942	Glucitol operon repressor		Ambiguous/Unsorted
mttA	948118	PTS system mannitol-specific EIIIBA component		Up Regulated
mttD	948117	Mannitol-1-phosphate 5-dehydrogenase		Ambiguous/Unsorted
cydA	945341	Cytochrome d ubiquinol oxidase subunit 1		Ambiguous/Unsorted
yibK	948119	Uncharacterized tRNA/rRNA methyltransferase yibK		Temporarily Down Regulated
yibH	948110	Inner membrane protein yibH		Ambiguous/Unsorted
yceB	947377	Uncharacterized lipoprotein yceB	['electron transport']	Ambiguous/Unsorted
betB	947376	Betaine aldehyde dehydrogenase		Temporarily Down Regulated
lysS	947372	Lysyl-tRNA synthetase; Lysyl-tRNA synthetase, heat inducible		Down Regulated
sodC	945343	Superoxide dismutase [Cu-Zn]		Up Regulated
yibF	948113	Uncharacterized GST-like protein yibF	[]	Temporarily Up Regulated
alkA	947371	DNA-3-methyladenine glycosylase 2		Down Regulated
astA	946261	Arginine N-succinyltransferase		Up Regulated
rlxA	946262	Ribosomal large subunit pseudouridine synthase A; Pseudouridine synthase		Up Regulated
astD	946260	N-succinylglutamate 5-semialdehyde dehydrogenase		Up Regulated
chbF	946266	6-phospho-beta-glucosidase		Ambiguous/Unsorted
moat	945398	Molybdopterin-converting factor subunit 1		Ambiguous/Unsorted
selA	948124	L-seryl-tRNA(Sec) selenium transferase		Down Regulated
moat	945399	Molybdopterin-converting factor subunit 2		Up Regulated
gpsA	948125	Glycerol-3-phosphate dehydrogenase [NAD(P)+]		Ambiguous/Unsorted
rhsA	948120	Protein rhsA		Up Regulated
lldD	948121	L-lactate dehydrogenase [cytochrome]		Down Regulated
ybhK	945390	UPF0052 protein ybhK		Down Regulated
cysE	948126	Serine acetyltransferase		Ambiguous/Unsorted
Moat	945396	Molybdenum cofactor biosynthesis protein B		Ambiguous/Unsorted
moat	945397	Molybdenum cofactor biosynthesis protein C		Ambiguous/Unsorted

yibQ	948128 Uncharacterized protein yibQ	['proteolysis']	Down Regulated
envC	948129 Uncharacterized protein yibP		Down Regulated
ynjA	946270 Uncharacterized protein ynjA	[' Primary Active Transporters']	Down Regulated
ynjB	946271 Protein ynjB		Up Regulated
ydjF	946272 Uncharacterized HTH-type transcriptional regulator ydjF	['Transcription', 'transcription', 'regulation of transcription DNA dependent']	Up Regulated
pncA	946276 Prazinamidase/nicotinamidase		Down Regulated
nudG	946277 CTP pyrophosphohydrolase		Ambiguous/Unsorted
ansA	946278 L-asparaginase 1		Ambiguous/Unsorted
rfaF	948135 ADP-heptose--LPS heptosyltransferase 2		Ambiguous/Unsorted
ypdB	947395 Uncharacterized response regulatory protein ypdB	[]	Up Regulated
rfaC	948136 Lipopolysaccharide heptosyltransferase 1		Ambiguous/Unsorted
xylB	948133 Xylulose kinase		Up Regulated
gcvH	947393 Glycine cleavage system H protein		Ambiguous/Unsorted
yggE	947398 Uncharacterized protein yggE	['Translation ribosomal structure and biogenesis']	Up Regulated
grxC	948132 Glutaredoxin-3		Up Regulated
gpmI	948130 2,3-bisphosphoglycerate-independent phosphoglycerate mutase		Down Regulated
tdh	948139 L-threonine 3-dehydrogenase		Ambiguous/Unsorted
tbl	948138 2-amino-3-ketobutyrate coenzyme A ligase		Down Regulated
cusC	946288 Cation efflux system protein cusC		Ambiguous/Unsorted
yjjU	948906 Uncharacterized protein yjjU	[]	Down Regulated
ybgC	948907 Acyl-CoA thioester hydrolase ybgC		Down Regulated
yafD	946286 UPF0294 protein yafD		Down Regulated
slt	948908 Soluble lytic murein transglycosylase		Down Regulated
sppA	946281 Protease 4		Down Regulated
yjaG	948501 Uncharacterized protein yjaG	[]	Down Regulated
nfi	948502 Endonuclease V		Ambiguous/Unsorted
zraS	948506 Sensor protein; Sensor protein zraS		Down Regulated
torT	946289 Periplasmic protein torT		Up Regulated
nlpE	946782 Lipoprotein nlpE		Up Regulated
xylA	948141 Xylose isomerase		Up Regulated
folX	946781 D-erythro-7,8-dihydronoopterin triphosphate epimerase		Up Regulated
rsuA	945378 Pseudouridine synthase; Ribosomal small subunit pseudouridine synthase A		Down Regulated
yahG	945379 Uncharacterized protein yahG	['Amino acid transport and metabolism', ' Central intermediary metabolism', ' Metabolism of other compounds', 'metabolic process']	Ambiguous/Unsorted
bioA	945376 Adenosylmethionine-8-amino-7-oxononanoate aminotransferase		Down Regulated
ybhH	945375 Uncharacterized protein ybhH	[]	Temporarily Down Regulated
rfaG	948149 Lipopolysaccharide core biosynthesis protein rfaG		Temporarily Up Regulated
ybhA	945372 Phosphatase ybhA		Temporarily Up Regulated
DeoE	948910 Phosphopentomutase		Ambiguous/Unsorted
hisP	946789 Histidine transport ATP-binding protein hisP		Ambiguous/Unsorted
radA	948912 DNA repair protein radA		Down Regulated
bioB	945370 Biotin synthase		Down Regulated
mngR	945371 Mannosyl-D-glycerate transport/metabolism system repressor mngR		Up Regulated
yjiY	948914 Inner membrane protein yjiY		Temporarily Up Regulated
yfcH	946784 Epimerase family protein yfcH		Up Regulated
serB	948913 Phosphoserine phosphatase		Down Regulated
fdrA	946298 Protein fdrA		Ambiguous/Unsorted
metA	948513 Homoserine O-succinyltransferase		Ambiguous/Unsorted
aceB	948512 Malate synthase A; Malate synthase		Up Regulated
rfaP	948150 Lipopolysaccharide core biosynthesis protein rfaP		Down Regulated
aceA	948517 Isocitrate lyase		Up Regulated
pagB	948518 Uncharacterized protein yjbD		Down Regulated
yjbD	948518 Uncharacterized protein yjbD		Down Regulated
ndh	946792 NADH dehydrogenase		Ambiguous/Unsorted
yicC	948154 UPF0701 protein yicC		Up Regulated
purF	946794 Amidophosphoribosyltransferase		Temporarily Up Regulated
truA	946793 tRNA pseudouridine synthase A		Down Regulated
yjaH	948508 Uncharacterized protein yjaH	['Cell wall membrane envelope biogenesis', 'lipopolysaccharide biosynthetic process']	Temporarily Up Regulated
pyrE	948157 Orotate phosphoribosyltransferase		Ambiguous/Unsorted
bioD	945387 Putative dethiobiotin synthetase; Dethiobiotin synthetase		Temporarily Down Regulated
slmA	948158 HTH-type protein slmA		Down Regulated
rfaQ	948155 Lipopolysaccharide core biosynthesis glycosyltransferase rfaQ		Down Regulated
rph	948156 Ribonuclease PH		Ambiguous/Unsorted
ybhB	945383 UPF0098 protein ybhB		Up Regulated
bioF	945384 8-amino-7-oxononanoate synthase		Down Regulated
uvrB	945385 UvrABC system protein B		Ambiguous/Unsorted

spoT	948159	Guanosine-3',5'-bis(diphosphate) 3'-pyrophosphohydrolase		Down Regulated
yeaJ	946290	Uncharacterized protein yeaJ	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription', 'regulation of transcription']	Ambiguous/Unsorted
uxuB	946795	D-mannose oxidoreductase		Temporarily Up Regulated
deoC	948902	Deoxyribose-phosphate aldolase		Up Regulated
deoA	948901	Thymidine phosphorylase		Ambiguous/Unsorted
tolQ	948900	Protein tolQ		Down Regulated
yfcG	946763	Uncharacterized GST-like protein yfcG		Ambiguous/Unsorted
nuoA	946764	NADH-quinone oxidoreductase subunit; NADH-quinone oxidoreductase subunit A		Temporarily Down Regulated
mutM	946765	Formamidopyrimidine-DNA glycosylase		Ambiguous/Unsorted
yfbU	946767	UPF0304 protein yfbU		Temporarily Down Regulated
selD	946768	Selenide, water dikinase		Ambiguous/Unsorted
lrhA	946769	Probable HTH-type transcriptional regulator lrhA		Down Regulated
yicJ	948169	Alpha-xylosidase		Ambiguous/Unsorted
yicJ	948168	Inner membrane symporter yicJ		Temporarily Down Regulated
gltS	948166	Sodium/glutamate symport carrier protein		Temporarily Down Regulated
ligB	948164	DNA ligase B		Ambiguous/Unsorted
rbn	946760	Ribonuclease Z		Down Regulated
gmk	948163	Guanylate kinase		Ambiguous/Unsorted
recG	948162	ATP-dependent DNA helicase recG		Down Regulated
nuoH	946761	NADH-quinone oxidoreductase subunit H		Down Regulated
trmH	948161	tRNA guanosine-2'-O-methyltransferase		Down Regulated
flk	946776	Flagellar regulator flk		Down Regulated
yfbT	946777	Phosphatase yfbT		Up Regulated
setC	948177	Sugar efflux transporter C		Ambiguous/Unsorted
yfbR	946771	UPF0207 protein yfbR; 5'-nucleotidase yfbR		Ambiguous/Unsorted
yfbQ	946772	Uncharacterized aminotransferase yfbQ	[]	Down Regulated
yicN	948173	Uncharacterized protein yicN	['Carbon compound utilization', 'regulation of transcription']	Down Regulated
nlpA	948175	Lipoprotein 28		Down Regulated
yicH	948171	Uncharacterized protein yicH	['Energy production and conversion']	Ambiguous/Unsorted
kdpD	946744	Sensor protein; Sensor protein kdpD		Up Regulated
nuoE	946746	NADH-quinone oxidoreductase subunit E		Ambiguous/Unsorted
yidJ	948188	Uncharacterized sulfatase yidJ	[]	Down Regulated
ilvN	948183	Acetolactate synthase isozyme 1 small subunit		Ambiguous/Unsorted
nuoB	946738	NADH-quinone oxidoreductase subunit B		Down Regulated
nuoI	946757	NADH-quinone oxidoreductase subunit I		Temporarily Down Regulated
elaB	946751	Protein elaB		Up Regulated
elaA	946750	Protein elaA		Temporarily Up Regulated
uhpB	948195	Sensor protein uhpB		Ambiguous/Unsorted
yidR	948198	Uncharacterized protein yidR	['Energy production and conversion', 'electron transport']	Temporarily Down Regulated
yidQ	948199	Uncharacterized protein yidQ	[]	Up Regulated
yidG	948191	Inner membrane protein yidG		Down Regulated
ibpB	948192	Small heat shock protein ibpB		Ambiguous/Unsorted
yfcF	946749	Uncharacterized GST-like protein yfcF		Up Regulated
srlB	948971	Glucitol/sorbitol-specific phosphotransferase enzyme IIA component		Up Regulated
ybgJ	945311	Uncharacterized protein ybgJ	[]	Ambiguous/Unsorted
sdhC	945316	Succinate dehydrogenase cytochrome b556 subunit		Ambiguous/Unsorted
atoE	946721	Short-chain fatty acids transporter		Temporarily Up Regulated
yigR	948978	Uncharacterized protein yigR	[]	Up Regulated
menL	946720	2-succinyl-5-enopyruvyl-6-hydroxy-3-cyclohexene-1-carboxylate synthase		Temporarily Down Regulated
rfdD	948977	UDP-N-acetyl-D-mannosamine dehydrogenase		Ambiguous/Unsorted
ypdA	946723	Inner membrane protein ypdA		Temporarily Down Regulated
glpQ	946725	Glycerophosphoryl diester phosphodiesterase		Temporarily Up Regulated
acnA	946724	Aconitate hydratase 1		Up Regulated
hisJ	945309	Histidine-binding periplasmic protein		Ambiguous/Unsorted
gltA	945323	Citrate synthase		Ambiguous/Unsorted
lptG	945324	Lipopolysaccharide export system permease protein lptG		Up Regulated
tolR	945328	Protein tolR		Ambiguous/Unsorted
ybgE	945326	Uncharacterized protein ybgE	['Energy production and conversion', 'Energy metabolism carbon', 'Energy production transport', 'electron transport']	Up Regulated
ttcA	948967	tRNA 2-thiocytidine biosynthesis protein ttcA		Down Regulated
rmuC	948966	DNA recombination protein rmuC		Up Regulated
yeaP	948969	Probable diguanylate cyclase yeaP		Down Regulated
ygiQ	948963	UPF0313 protein ygiQ		Down Regulated
nei	945320	Endonuclease VIII; Endonuclease 8		Down Regulated
glpC	946735	Anaerobic glycerol-3-phosphate dehydrogenase subunit C		Down Regulated
menC	946734	o-succinylbenzoate synthase		Temporarily Down Regulated

atoB	946727	Acetyl-CoA acetyltransferase		Temporarily Down Regulated
yejG	945319	Uncharacterized protein yejG	□	Down Regulated
ybgL	945318	UPF0271 protein ybgL		Ambiguous/Unsorted
rscC	948993	Sensor kinase protein rcsC; Sensor protein		Down Regulated
djIA	948992	DnaJ-like protein djIA		Temporarily Down Regulated
yeiR	946701	Uncharacterized protein yeiR	□	Down Regulated
eco	946700	Ecotin		Up Regulated
cho	948996	Excinuclease cho		Temporarily Up Regulated
rnqo	946702	Malate:quinone oxidoreductase; Probable malate:quinone oxidoreductase		Temporarily Up Regulated
csgE	945711	Curli production assembly/transport component csgE		Down Regulated
osmE	945305	Osmotically-inducible lipoprotein E		Up Regulated
rhsC	945306	Protein rhsC		Ambiguous/Unsorted
ycdX	945304	Acylphosphatase		Up Regulated
borD	948980	Lipoprotein bor homolog from lambdoid prophage DLP12		Ambiguous/Unsorted
SdhB	945300	Succinate dehydrogenase iron-sulfur subunit		Ambiguous/Unsorted
hybD	948982	Hydrogenase 2 maturation protease		Temporarily Down Regulated
ccmA	946714	Cytochrome c biogenesis ATP-binding export protein ccmA		Temporarily Down Regulated
glpA	946713	Anaerobic glycerol-3-phosphate dehydrogenase subunit A		Up Regulated
menF	946712	Menaquinone-specific isochorismate synthase		Ambiguous/Unsorted
apbE	946711	Thiamine biosynthesis lipoprotein apbE		Up Regulated
guaC	948986	GMP reductase		Ambiguous/Unsorted
lolA	948989	Outer-membrane lipoprotein carrier protein		Up Regulated
betA	945716	Choline dehydrogenase		Down Regulated
yojI	946705	ABC transporter ATP-binding protein yojI		Temporarily Up Regulated
arcB	947887	Aerobic respiration control sensor protein arcB; Sensor protein		Down Regulated
frlR	947885	HTH-type transcriptional regulator frlR		Ambiguous/Unsorted
DHAf	945743	PTS-dependent dihydroxyacetone kinase operon regulatory protein		Up Regulated
map	947882	Methionine aminopeptidase		Ambiguous/Unsorted
minC	945744	Septum site-determining protein minC; Probable septum site-determining protein minC		Down Regulated
cysG	947880	Siroheme synthase		Down Regulated
minE	945740	Cell division topological specificity factor		Down Regulated
PabA	947873	Para-aminobenzoate synthase glutamine amidotransferase component II		Down Regulated
rpsB	947874	30S ribosomal protein S2		Ambiguous/Unsorted
friB	947875	Fructoselysine 6-phosphate deglycase		Temporarily Up Regulated
ycgE	945735	Uncharacterized HTH-type transcriptional regulator ycgE	□	Down Regulated
yhfG	947871	Uncharacterized protein yhfG	['Amino acid transport and metabolism', 'protein folding', 'amino acid biosynthetic process']	
fic	947872	Cell filamentation protein fic		Up Regulated
rssA	945725	INTE family protein rssA		Ambiguous/Unsorted
ribA	945763	GTP cyclohydrolase-2		Down Regulated
clpA	945764	ATP-dependent Clp protease ATP-binding subunit clpA		Up Regulated
pth	945765	Peptidyl-tRNA hydrolase		Temporarily Down Regulated
ycgV	945767	Uncharacterized protein ycgV	['Amino acid transport and metabolism', 'Building block biosynthesis']	
gst	945758	Glutathione S-transferase		Ambiguous/Unsorted
gph	947895	Phosphoglycolate phosphatase		Ambiguous/Unsorted
rpe	947896	Ribulose-phosphate 3-epimerase		Ambiguous/Unsorted
dadA	945752	D-amino acid dehydrogenase small subunit		Down Regulated
sufB	945753	Protein sufB		Up Regulated
yhfW	947890	Uncharacterized protein yhfW	['Replication recombination and repair', 'Carbon compound utilization']	
btuD	945751	Vitamin B12 import ATP-binding protein btuD		Temporarily Down Regulated
ldcA	945756	Muramoyltetrapeptide carboxypeptidase		Temporarily Down Regulated
treA	945757	Periplasmic trehalase; Putative periplasmic trehalase		Up Regulated
dam	947893	DNA adenine methylase		Down Regulated
dadX	945754	Alanine racemase, catabolic; Alanine racemase		Up Regulated
cvrA	945755	Cell volume regulation protein A		Down Regulated
dhaM	945749	PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM		Up Regulated
dhaL	945748	PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL		Up Regulated
dhaK	945747	PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK		Ambiguous/Unsorted
narX	945788	Nitrate/nitrite sensor protein narX		Down Regulated
clpB	947077	Chaperone protein clpB		Ambiguous/Unsorted
ychA	945784	Protein sirB1		Temporarily Down Regulated
ydhS	945786	Uncharacterized protein ydhS	['Building block biosynthesis']	
yeaC	947074	Uncharacterized protein yeaC	□	Temporarily Up Regulated
narG	945782	Respiratory nitrate reductase 1 alpha chain		Temporarily Down Regulated
nudK	947072	GDP-mannose pyrophosphatase nudK		Ambiguous/Unsorted
prmC	945779	Protein methyltransferase hemK		Temporarily Up Regulated

nfsB	945778	Oxygen-insensitive NAD(P)H nitroreductase		Ambiguous/Unsorted
yfiH	947089	UPF0124 protein yfiH		Temporarily Up Regulated
hemA	945777	Glutamyl-tRNA reductase		Down Regulated
yqaB	945776	Phosphatase yqaB		Up Regulated
lolB	945775	Outer-membrane lipoprotein lolB		Ambiguous/Unsorted
aroF	947084	Phospho-2-dehydro-3-deoxyheptonate aldolase, Tyr-sensitive		Down Regulated
ispE	945774	4-diphosphocytidyl-2-C-methyl-D-erythritol kinase		Temporarily Up Regulated
agp	945773	Glucose-1-phosphatase		Up Regulated
rldD	947087	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase D		Ambiguous/Unsorted
cysB	945771	HTH-type transcriptional regulator cysB		Ambiguous/Unsorted
ybaK	947083	Uncharacterized protein ybaK		Up Regulated
uxuA	947082	Mannose dehydratase		Up Regulated
ychF	945769	GTP-dependent nucleic acid-binding protein engD		Down Regulated
yegP	947095	UPF0339 protein yegP		Up Regulated
rplS	947096	50S ribosomal protein L19		Ambiguous/Unsorted
trmD	947099	tRNA (guanine-N(1))-methyltransferase		Ambiguous/Unsorted
yfbB	947094	Putative lipoprotein yfbB		Down Regulated
narL	945795	Nitrate/nitrite response regulator protein narL		Temporarily Up Regulated
ychN	945794	Protein ychN		Ambiguous/Unsorted
rplE	947800	50S ribosomal protein L5		Ambiguous/Unsorted
rpsN	947801	30S ribosomal protein S14		Down Regulated
rpsH	947802	30S ribosomal protein S8		Down Regulated
ptrB	946358	Protease 2		Ambiguous/Unsorted
acpS	947037	Holo-[acyl-carrier-protein] synthase		Temporarily Up Regulated
yoaB	946357	UPF0076 protein yoaB		Up Regulated
yebE	946355	Inner membrane protein yebE		Ambiguous/Unsorted
pdxJ	947039	Pyridoxine 5'-phosphate synthase		Ambiguous/Unsorted
queC	947034	Queuosine biosynthesis protein queC		Down Regulated
thiC	948492	Thiamine biosynthesis protein thiC		Temporarily Down Regulated
rnc	947033	Ribonuclease 3		Ambiguous/Unsorted
yebT	946352	Uncharacterized protein yebT	['Inorganic ion transport and metabolism']	Down Regulated
era	947036	GTP-binding protein era; GTP-binding protein era homolog		Down Regulated
yebO	946350	Uncharacterized protein yebO	[]	Up Regulated
yfhH	947030	Uncharacterized HTH-type transcriptional regulator yfhH	['Carbohydrate transport and metabolism']	Ambiguous/Unsorted
rsd	948496	Regulator of sigma D		Temporarily Down Regulated
hupA	948499	DNA-binding protein HU-alpha		Ambiguous/Unsorted
nudC	948498	NADH pyrophosphatase		Down Regulated
zapA	947404	Cell division protein zapA		Ambiguous/Unsorted
rpmI	946349	50S ribosomal protein L35		Down Regulated
rsmF	946348	Ribosomal RNA small subunit methyltransferase F		Down Regulated
exbD	946345	Biopolymer transport protein exbD		Down Regulated
dsbB	946344	Disulfide bond formation protein B		Temporarily Down Regulated
nadB	947049	L-aspartate oxidase		Temporarily Up Regulated
yebV	946347	Uncharacterized protein yebV	['Replication, recombination and repair']	Up Regulated
yfcI	947047	ECED1_3006; c3099; E2348C_2852; ECIAI1_2689; APEC01_3956; ECS88_2749; ECDH10B_2743; ECUMN_2898; ECIAI39_2780; UTI89_C2897; EC55989_2864; pC15-1a_066; Z3857; b2575		Temporarily Down Regulated
rplA	948483	50S ribosomal protein L1		Up Regulated
rlmA	946340	b1822		Ambiguous/Unsorted
yaeH	947044	UPF0325 protein yaeH		Up Regulated
manZ	946342	Mannose permease IID component		Ambiguous/Unsorted
bolA	947043	Protein bolA		Up Regulated
glrR	947042	Uncharacterized protein yfhA		Down Regulated
qseF	947042	Uncharacterized protein yfhA		Down Regulated
lepB	947040	Signal peptidase I		Ambiguous/Unsorted
epd	947413	D-erythrose-4-phosphate dehydrogenase		Down Regulated
mscS	947416	Small-conductance mechanosensitive channel		Ambiguous/Unsorted
rpoE	947050	RNA polymerase sigma factor; RNA polymerase sigma-E factor		Temporarily Up Regulated
yhcB	947815	Putative cytochrome d ubiquinol oxidase subunit 3		Down Regulated
rplC	947817	50S ribosomal protein L3		Temporarily Down Regulated
rplW	947819	50S ribosomal protein L23		Up Regulated
yebC	946379	UPF0082 protein yebC		Ambiguous/Unsorted
pssA	947059	CDP-diacylglycerol-serine O-phosphatidyltransferase		Down Regulated
rplB	947820	50S ribosomal protein L2		Down Regulated
yhcM	947821	Uncharacterized protein yhcM	[]	Ambiguous/Unsorted
rseC	947052	Sigma-E factor regulatory protein rseC		Down Regulated
etk	947409	Tyrosine-protein kinase etk		Temporarily Up Regulated

rvB	946371	Holliday junction ATP-dependent DNA helicase rvB		Down Regulated
rseB	947054	Sigma-E factor regulatory protein rseB		Down Regulated
rseA	947053	Sigma-E factor negative regulatory protein		Down Regulated
yfQ	947056	Uncharacterized protein yfQ	□	Up Regulated
znuA	946375	High-affinity zinc uptake system protein znuA		Up Regulated
yciH	947058	Uncharacterized protein yciH	["Translation ribosomal structure and biogenesis", "translation"]	Temporarily Up Regulated
znuC	946374	Zinc import ATP-binding protein znuC		Up Regulated
yfP	947057	DTW domain-containing protein yfP		Down Regulated
yebK	946373	HTH-type transcriptional regulator hexR		Up Regulated
ycfQ	947425	Uncharacterized HTH-type transcriptional regulator ycfQ	□	Up Regulated
nagE	945292	PTS system N-acetylglucosamine-specific EIIICBA component		Up Regulated
yggU	947424	UPF0235 protein yggU		Temporarily Down Regulated
ybfE	945291	Uncharacterized protein ybfE		Up Regulated
rdgB	947429	Nucleoside-triphosphatase; Nucleoside-triphosphatase rdgB		Ambiguous/Unsorted
yfM	947060	Uncharacterized protein yfM	["RNA related"]	Temporarily Up Regulated
hycl	947428	Hydrogenase 3 maturation protease		Up Regulated
entE	947426	Enterobactin synthetase component E		Up Regulated
rpmC	947807	50S ribosomal protein L29		Ambiguous/Unsorted
rplP	947806	50S ribosomal protein L16		Down Regulated
rplR	947804	50S ribosomal protein L18		Temporarily Up Regulated
yggT	947421	Uncharacterized protein yggT	□	Down Regulated
rplN	947809	50S ribosomal protein L14		Ambiguous/Unsorted
rpsQ	947808	30S ribosomal protein S17		Temporarily Up Regulated
rplX	947810	50S ribosomal protein L24		Down Regulated
rvA	946369	Holliday junction ATP-dependent DNA helicase rvA		Ambiguous/Unsorted
rplV	947813	50S ribosomal protein L22		Up Regulated
rpsS	947811	30S ribosomal protein S19		Down Regulated
selU	947063	tRNA 2-selenouridine synthase		Down Regulated
exoX	946361	Exodeoxyribonuclease 10		Down Regulated
trxC	947062	Thioredoxin-2		Up Regulated
kgtP	947069	Alpha-ketoglutarate permease		Temporarily Down Regulated
yebF	946363	Protein yebF		Up Regulated
edd	946362	Phosphogluconate dehydratase		Temporarily Down Regulated
yfdD	947068	Autonomous glycyl radical cofactor		Down Regulated
ung	947067	Uracil-DNA glycosylase		Down Regulated
ycgB	946365	Uncharacterized protein ycgB	["metabolic process"]	Up Regulated
yebG	946364	Uncharacterized protein yebG	["Translation ribosomal structure and biogenesis", "Replication recombination and repair"]	Down Regulated
nagB	945290	Glucosamine-6-phosphate deaminase		Up Regulated
yggR	947430	Uncharacterized protein yggR	□	Temporarily Up Regulated
speA	947432	Biosynthetic arginine decarboxylase; Arginine decarboxylase		Down Regulated
CHIA	947837	Probable bifunctional chitinase/lysozyme		Up Regulated
bfr	947839	Bacterioferritin		Up Regulated
yoaC	946308	Uncharacterized protein yoaC	["Replication recombination and repair", "DNA recombination"]	Down Regulated
nrdR	947437	Transcriptional repressor nrdR		Down Regulated
yggF	947439	Putative Holliday junction resolvase		Ambiguous/Unsorted
yoaF	946310	Uncharacterized protein yoaF	□	Temporarily Down Regulated
pflC	948453	Pyruvate formate-lyase 2-activating enzyme		Down Regulated
pfdD	948454	Formate acetyltransferase 2		Ambiguous/Unsorted
argC	948455	N-acetyl-gamma-glutamyl-phosphate reductase		Ambiguous/Unsorted
argE	948456	Acetylornithine deacetylase		Ambiguous/Unsorted
rpsL	947845	30S ribosomal protein S12		Down Regulated
rpmG	946318	50S ribosomal protein L33		Down Regulated
yheL	947844	Protein tusB		Up Regulated
yjP	948458	E2348C_4267; ECUMN_4486; ECED1_4660; b3955; ECDH10B_4143; ECIA1_4163; EC55989_4437; Z5513; ECS88_4410; UT189_C4546; c4914; ECIA139_3034		Temporarily Down Regulated
rpsG	947846	30S ribosomal protein S7		Down Regulated
ompF	946313	Outer membrane protein F		Up Regulated
yeaY	946312	Uncharacterized lipoprotein yeaY	["Cell wall membrane envelope biogenesis", "metabolic process"]	Up Regulated
sad	947440	Aldehyde dehydrogenase-like protein yne1		Ambiguous/Unsorted
rplM	947828	50S ribosomal protein L13		Up Regulated
trml	947448	RNA (guanine-N(7)-)methyltransferase		Temporarily Down Regulated
yggL	947449	Uncharacterized protein yggL	□	Temporarily Down Regulated
yggW	947446	Oxygen-independent coproporphyrinogen-III oxidase-like protein yggW		Temporarily Down Regulated
mutY	947447	A/G-specific adenine glycosylase		Temporarily Up Regulated
atoC	947444	Acetoacetate metabolism regulatory protein atoC		Temporarily Up Regulated
iscU	947002	NifU-like protein		Down Regulated

puuC	947003	Gamma-glutamyl-gamma-aminobutyraldehyde dehydrogenase		Temporarily Down Regulated
gldA	948440	Glycerol dehydrogenase		Up Regulated
yccS	947001	Inner membrane protein yccS		Ambiguous/Unsorted
clpS	948443	ATP-dependent Clp protease adapter protein clpS		Down Regulated
hrpA	948444	ATP-dependent RNA helicase hrpA		Down Regulated
yeaZ	946304	M22 peptidase homolog yeaZ		Ambiguous/Unsorted
thiB	946306	Thiamine-binding periplasmic protein		Up Regulated
flgA	946300	Flagella basal body P-ring formation protein flgA		Down Regulated
talA	947006	Transaldolase A; Transaldolase		Ambiguous/Unsorted
mipA	946301	MITA-interacting protein		Up Regulated
gspK	947831	Probable general secretion pathway protein K		Ambiguous/Unsorted
yhcO	947830	Uncharacterized protein yhcO	[]	Down Regulated
yeaE	946302	Uncharacterized protein yeaE		Up Regulated
iscS	947004	Cysteine desulfurase		Ambiguous/Unsorted
yeaK	946303	Uncharacterized protein yeaK	[]	Down Regulated
phr	947005	Deoxyribodipyrimidine photo-lyase		Ambiguous/Unsorted
slyD	947859	FKBP-type peptidyl-prolyl cis-trans isomerase slyD		Ambiguous/Unsorted
kdpB	947450	Potassium-transporting ATPase B chain		Ambiguous/Unsorted
yggN	947453	Uncharacterized protein yggN	['Central intermediary metabolism']	Temporarily Up Regulated
ansB	947454	L-asparaginase 2		Up Regulated
flgJ	947456	Peptidoglycan hydrolase flgJ		Down Regulated
speC	947457	Ornithine decarboxylase, constitutive		Ambiguous/Unsorted
yahA	947459	Cyclic di-GMP phosphodiesterase yahA		Temporarily Up Regulated
yfhG	947010	Uncharacterized protein yfhG	['Amino acid transport and metabolism', 'Building block biosynthesis', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription', 'regulation of translation']	Temporarily Down Regulated
ycdX	948477	Putative hydrolase ycdX		Down Regulated
sdaA	946331	L-serine dehydratase 1		Up Regulated
nlpD	947011	Lipoprotein nlpD		Up Regulated
murB	948470	UDP-N-acetylglucosamine reductase		Ambiguous/Unsorted
manY	946332	Mannose permease IIC component		Down Regulated
yacC	948472	Uncharacterized protein yacC	['Amino acid transport and metabolism']	Down Regulated
argR	947861	Arginine repressor		Down Regulated
gseE	947013	Putative sensor-like histidine kinase yfhK; Sensor protein		Temporarily Up Regulated
glrK	947013	Putative sensor-like histidine kinase yfhK; Sensor protein		Temporarily Up Regulated
yhfA	947860	Protein yhfA		Ambiguous/Unsorted
yebY	947014	Uncharacterized protein yebY	['translation']	Ambiguous/Unsorted
yoaE	946335	UPF0053 inner membrane protein yoaE		Up Regulated
prkB	947862	Probable phosphoribulokinase; Phosphoribulokinase		Up Regulated
pepT	946333	Peptidase T		Up Regulated
degS	947865	Protease degS		Up Regulated
manY	946334	PTS system mannose-specific EIAB component		Ambiguous/Unsorted
hmp	947018	Flavohemoprotein		Down Regulated
cspC	946339	Cold shock-like protein cspC		Down Regulated
yphC	947019	Uncharacterized zinc-type alcohol dehydrogenase-like protein yphC	['Carbon compound utilization', 'Energy metabolism carbon']	Ambiguous/Unsorted
crp	947867	Catabolite gene activator		Down Regulated
yhfK	947866	Uncharacterized protein yhfK	['Signal transduction mechanisms', 'tricarboxylic acid cycle']	Temporarily Down Regulated
pabB	946337	Para-aminobenzoate synthase component 1		Ambiguous/Unsorted
ascB	947460	6-phospho-beta-glucosidase ascB		Ambiguous/Unsorted
yggX	947461	Probable Fe(2+)-trafficking protein		Up Regulated
yeaU	946319	Probable tartrate dehydrogenase/decarboxylase		Up Regulated
dmlA	946319	Probable tartrate dehydrogenase/decarboxylase		Up Regulated
yhdH	947848	Putative quinone oxidoreductase yhdH		Ambiguous/Unsorted
slyX	947849	Protein slyX		Up Regulated
leuA	947465	2-isopropylmalate synthase		Ambiguous/Unsorted
yphG	947021	Uncharacterized protein yphG	['Carbon compound utilization', 'carbohydrate transport']	Up Regulated
cspE	947024	Cold shock-like protein cspE		Down Regulated
oxyR	948462	Hydrogen peroxide-inducible genes activator		Ambiguous/Unsorted
fabR	948460	IHT-type transcriptional repressor fabR		Ambiguous/Unsorted
murG	946321	UDP-N-acetylglucosamine-N-acetylmuramyl-(pentapeptide) pyrophosphoryl-undecaprenol N-acetylglucosamine transferase		Ambiguous/Unsorted
yphH	947023	Uncharacterized protein yphH	['Carbohydrate transport and metabolism', 'Transcription', 'carbohydrate metabolic process']	Ambiguous/Unsorted
potA	946323	Spermidine/putrescine import ATP-binding protein potA		Down Regulated
yheM	947853	Protein tusC		Temporarily Down Regulated
yfgC	947029	TPR repeat-containing protein yfgC		Ambiguous/Unsorted
ddIB	946324	D-alanine--D-alanine ligase B		Down Regulated
yfhB	947026	Uncharacterized protein yfhB	['Nucleotide transport and metabolism']	Down Regulated
tadA	947027	tRNA-specific adenosine deaminase		Down Regulated

yheO	947851	Uncharacterized protein yheO	[protein folding]	Down Regulated
phoQ	946326	Sensor protein phoQ; Sensor protein		Down Regulated
birA	948469	Bifunctional protein birA		Temporarily Up Regulated
kefB	947858	Glutathione-regulated potassium-efflux system protein kefB		Temporarily Down Regulated
kefG	947857	Glutathione-regulated potassium-efflux system ancillary protein kefG		Up Regulated
Fadd	946327	Long-chain-fatty-acid-CoA ligase		Up Regulated
rnd	946328	Ribonuclease D		Down Regulated
murl	948467	Glutamate racemase		Down Regulated
yheS	947856	Uncharacterized ABC transporter ATP-binding protein yheS	[]	Ambiguous/Unsorted
yheT	947855	Putative esterase yheT		Temporarily Up Regulated

Common Name	Entrez ID	Gene Name	Prediction	Sorted Category
yjeK	948662	Uncharacterized kamA family protein yjeK	['metabolic process']	Down Regulated
dxr	945019	1-deoxy-D-xylulose 5-phosphate reductoisomerase		Temporally Down Regulated
groL	948665	60 kDa chaperonin		Down Regulated
ribF	949129	Riboflavin biosynthesis protein ribF		Down Regulated
kch	945841	Putative potassium channel protein		Down Regulated
ydhB	945208	Uncharacterized HTH-type transcriptional regulator ydhB	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Up Regulated
fepG	945209	Ferric enterobactin transport system permease protein fepG		Ambiguous/Unsorted
ybaA	948863	Uncharacterized protein ybaA	[]	Up Regulated
ydcI	948865	Uncharacterized HTH-type transcriptional regulator ydcI	['Transcription', ' RNA related', ' Type of regulation', ' Genetic unit regulated', 'transcription', 'regulation of transcription DNA dependent']	Up Regulated
btuR	945839	Cob(I)yrinic acid a,c-diamide adenosyltransferase		Down Regulated
hsdS	948867	Type-1 restriction enzyme EcoKI specificity protein		Temporally Down Regulated
yciK	945838	Uncharacterized oxidoreductase yciK	['DNA repair', 'response to DNA damage stimulus']	Ambiguous/Unsorted
creD	948868	Inner membrane protein creD		Ambiguous/Unsorted
cstA	945213	Carbon starvation protein A		Ambiguous/Unsorted
rbsK	948260	Ribokinase		Down Regulated
ychE	945836	UPF0056 membrane protein yhcE		Temporally Down Regulated
yjiN	948860	Uncharacterized protein yjiN	['response to antibiotic']	Up Regulated
sugE	948671	Quaternary ammonium compound-resistance protein sugE		Down Regulated
tauD	945021	Alpha-ketoglutarate-dependent taurine dioxygenase		Down Regulated
dnl	945022	DNA-damage-inducible protein I		Temporally Up Regulated
rcsF	949113	Protein rcsF		Down Regulated
yaeB	949112	UPF0066 protein yaeB		Ambiguous/Unsorted
psd	948673	Phosphatidylserine decarboxylase proenzyme		Ambiguous/Unsorted
poxA	948672	Putative lysyl-tRNA synthetase		Up Regulated
abgR	945831	HTH-type transcriptional regulator abgR		Ambiguous/Unsorted
yqeG	945028	Inner membrane transport protein yqeG		Ambiguous/Unsorted
yhbV	949117	Uncharacterized protein yhbV	['Coenzyme transport and metabolism', ' Energy metabolism carbon ', ' Building block biosynthesis', 'ion transport', 'iron ion trans']	Up Regulated
yjeM	948679	Inner membrane transporter yjeM		Up Regulated
yieL	948272	Uncharacterized protein yieL	['Carbohydrate transport and metabolism']	Up Regulated
yjeP	948676	Uncharacterized mscS family protein yjeP	['purine nucleotide biosynthetic process', 'biosynthetic process']	Down Regulated
ilvE	948278	Branched-chain-amino-acid aminotransferase		Down Regulated
ilvM	948279	Acetylacetate synthase isozyme 2 small subunit		Down Regulated
tauC	945026	Taurine transport system permease protein tauC		Down Regulated
tauB	945027	Taurine import ATP-binding protein tauB		Down Regulated
ilvD	948277	Dihydroxy-acid dehydratase		Down Regulated
oppA	945830	Periplasmic oligopeptide-binding protein		Down Regulated
thrB	947498	Homoserine kinase		Down Regulated
ylaC	948876	Inner membrane protein ylaC		Up Regulated
ampD	948877	1,6-anhydro-N-acetylmuramyl-L-alanine amidase ampD		Ambiguous/Unsorted
leuS	947497	Leucyl-tRNA synthetase		Temporally Down Regulated
dkgA	947495	2,5-diketo-D-gluconic acid reductase A		Temporally Up Regulated
tatE	945228	Sec-independent protein translocase protein tatE		Down Regulated
marR	945825	Multiple antibiotic resistance protein marR		Up Regulated
ybgI	945824	UPF0135 protein ybgI		Ambiguous/Unsorted
dacA	945222	D-alanyl-D-alanine carboxypeptidase dacA		Down Regulated
ahpC	945225	Alkyl hydroperoxide reductase subunit C		Temporally Up Regulated
yqhC	947491	Uncharacterized HTH-type transcriptional regulator yqhC	[' RNA related', ' Type of regulation', ' Genetic unit regulated', ' Protection', 'regulation of transcription DNA dependent']	Up Regulated
dsbG	945224	Thiol-disulfide interchange protein dsbG		Down Regulated
yjIL	948879	Inner membrane transport protein yjIL		Up Regulated
ybeD	945220	UPF0250 protein ybeD		Ambiguous/Unsorted
hsdM	948872	Type I restriction enzyme EcoKI M protein		Down Regulated
fecR	949104	Protein fecR		Ambiguous/Unsorted
tauA	945030	Taurine-binding periplasmic protein		Down Regulated
dsdX	949103	DsdX permease		Up Regulated
fumB	948642	Fumarate hydratase class I, anaerobic		Up Regulated
yaiI	945033	UPF0178 protein yaiI		Down Regulated
atpF	948247	ATP synthase subunit b; ATP synthase B chain		Down Regulated
mmnG	948248	tRNA uridine 5-carboxymethylaminomethyl modification enzyme mmnG		Ambiguous/Unsorted
atpG	948243	ATP synthase gamma chain		Down Regulated
atpD	948244	ATP synthase subunit beta		Down Regulated
ptrA	947284	Protease 3		Temporally Down Regulated
atpC	948245	ATP synthase epsilon chain		Down Regulated
glmU	948246	Bifunctional protein glmU		Down Regulated
recB	947286	Exodeoxyribonuclease V beta chain		Down Regulated
ynfH	945822	Anaerobic dimethyl sulfoxide reductase chain ynfH		Down Regulated
RecD	947287	Exodeoxyribonuclease V alpha chain		Down Regulated
oppB	945823	Oligopeptide transport system permease protein oppB		Down Regulated
fimA	948838	Type-1 fimbrial protein, A chain		Up Regulated
nanM	949106	N-acetylneuraminate epimerase		Up Regulated
glmS	948241	Glucosamine-fructose-6-phosphate aminotransferase [isomerase]		Down Regulated
argA	947289	Amino-acid acetyltransferase		Down Regulated
atpA	948242	ATP synthase subunit alpha		Down Regulated
Dos	945815	Heme-regulated cyclic di-GMP, cyclic AMP phosphodiesterase,		Temporally Up Regulated

dosP	945815 Heme-regulated cyclic di-GMP, cyclic AMP phosphodiesterase,		Temporarily Up Regulated
gpr	947480 Uncharacterized protein yghZ		Temporarily Up Regulated
yghZ	947480 Uncharacterized protein yghZ		Temporarily Up Regulated
fimH	948847 Protein fimH		Temporarily Down Regulated
ygiT	945814 Uncharacterized HTH-type transcriptional regulator ygiT	['Carbon compound utilization', 'metabolic process']	Up Regulated
mqsA	945814 Uncharacterized HTH-type transcriptional regulator ygiT		Up Regulated
gntP	948848 High-affinity gluconate transporter		Up Regulated
flgD	945813 Basal-body rod modification protein flgD		Down Regulated
rfdC	947482 dTDP-4-dehydrorhamnose 3,5-epimerase		Down Regulated
yfdY	948842 Uncharacterized protein yfdY	[]	Up Regulated
uidB	947484 ECIAI39_1442; EcHS_A1691; APEC01_699; b1616; ECDH10B_1749; c2008; UTI89_C1804; EcSMS35_1583; EcE24377A_1824; Z2620; ECS88_1662; ECED1_1815; ECUMN_1905; ECH	Up Regulated	Up Regulated
yciU	945819 UPF0263 protein yciU		Down Regulated
rlmH	945239 Ribosomal RNA large subunit methyltransferase H		Temporarily Down Regulated
mrdB	945238 Rod shape-determining protein rodA		Down Regulated
flhC	947280 Flagellar transcriptional activator flhC		Temporarily Up Regulated
ybeB	945237 Uncharacterized protein ybeB	[]	Down Regulated
sgcX	948840 Putative sgc region protein sgcX		Up Regulated
fadR	948652 Fatty acid metabolism regulator protein		Down Regulated
psiF	945040 Phosphate starvation-inducible protein psiF		Up Regulated
ygdD	947279 UPF0382 inner membrane protein ygdD		Temporarily Up Regulated
yjdC	948650 HTH-type transcriptional regulator yjdC		Temporarily Up Regulated
phoR	945044 Sensor protein; Phosphate regulon sensor protein phoR		Temporarily Down Regulated
aroM	945045 Protein aroM		Temporarily Down Regulated
asnC	948259 Asparaginyl-tRNA synthetase; Regulatory protein asnC		Down Regulated
fucO	947273 Lactaldehyde reductase		Temporarily Up Regulated
csdE	947274 Uncharacterized sulfE-like protein ygdK		Ambiguous/Unsorted
yaiE	945048 UPF0345 protein yaiE		Down Regulated
atpH	948254 ATP synthase subunit delta		Down Regulated
aspA	948658 Aspartate ammonia-lyase		Temporarily Up Regulated
atpB	948252 ATP synthase subunit a		Down Regulated
fxsA	948657 UPF0716 protein fxsA		Temporarily Up Regulated
yjeH	948656 Inner membrane protein yjeH		Down Regulated
atpE	948253 ATP synthase subunit c		Down Regulated
oppC	945810 Oligopeptide transport system permease protein oppC		Down Regulated
rsmG	948250 Ribosomal RNA small subunit methyltransferase G		Down Regulated
groS	948655 10 kDa chaperonin		Down Regulated
uxuR	948849 Uxu operon transcriptional regulator		Ambiguous/Unsorted
thrA	945803 Bifunctional aspartokinase/homoserine dehydrogenase 1		Temporarily Up Regulated
oppD	945802 Oligopeptide transport ATP-binding protein oppD		Down Regulated
holE	947471 DNA polymerase III subunit theta		Temporarily Down Regulated
nadD	945248 Nicotinate-nucleotide adenyltransferase; Probable nicotinate-nucleotide adenyllyltransferase		Down Regulated
gss	947474 Bifunctional glutathionylspermidine synthetase/amidase		Temporarily Down Regulated
gsp	947474 Bifunctional glutathionylspermidine synthetase/amidase		Temporarily Down Regulated
yjiE	948852 Uncharacterized HTH-type transcriptional regulator yjiE	['Transcription', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Ambiguous/Unsorted
glcG	947473 Protein glcG		Temporarily Up Regulated
yghA	947479 UPF0114 protein yghA		Down Regulated
rlpA	945241 Rare lipoprotein A		Down Regulated
mrdA	945240 Penicillin-binding protein 2		Down Regulated
ygdH	947266 UPF0717 protein ygdH		Down Regulated
gudX	947261 Glucarate dehydratase-related protein		Up Regulated
rumB	947260 23S rRNA (uracil-5-)methyltransferase rumB		Temporarily Down Regulated
wrbA	947263 Flavoprotein wrbA; Putative flavoprotein wrbA		Temporarily Up Regulated
yieE	948226 Uncharacterized protein yieE	['Amino acid transport and metabolism']	Temporarily Down Regulated
yieF	948225 Uncharacterized protein yieF		Temporarily Down Regulated
ygbE	947268 Inner membrane protein ygbE		Down Regulated
gadA	948027 Glutamate decarboxylase alpha		Up Regulated
djIC	945253 Uncharacterized J domain-containing protein djIC		Up Regulated
fhuC	945250 Iron(3+)-hydroxamate import ATP-binding protein fhuC		Temporarily Up Regulated
serA	945258 D-3-phosphoglycerate dehydrogenase		Down Regulated
adjA	948638 Biodegradative arginine decarboxylase		Up Regulated
dcuS	948639 Sensor protein dcuS		Temporarily Down Regulated
phoU	948233 Phosphate transport system protein phoU		Down Regulated
melR	948637 Melibiose operon regulatory protein		Up Regulated
glcA	947259 Glycolate permease glcA		Temporarily Up Regulated
yhjA	948038 Probable cytochrome c peroxidase		Up Regulated
miaB	945260 (Dimethylallyl)adenosine tRNA methylthiotransferase miaB		Down Regulated
ubif	945261 2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase		Up Regulated
yhjE	948032 Inner membrane metabolite transport protein yhjE		Temporarily Up Regulated
yhjD	948033 Inner membrane protein yhjD		Temporarily Up Regulated
eptA	948629 ECIAI1_4344; E2348C_4442; ECUMN_4646; ECS88_4616; b4114; ECED1_4848; ECIAI39_4538; EC55989_4605; ECDH10B_4306		Ambiguous/Unsorted
yhjC	948035 Uncharacterized HTH-type transcriptional regulator yhjC	['Transcription', 'RNA related', 'Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Up Regulated
ibpA	948200 Small heat shock protein ibpA		Up Regulated
yeCJ	946388 Uncharacterized protein yeCJ	[]	Down Regulated
yidX	948202 Uncharacterized protein yidX	['Type of regulation', 'proteolysis', 'signal transduction']	Up Regulated

CYBB	947241	Cytochrome b561				Down Regulated	
torZ	946389	Trimethylamine-N-oxide reductase 2				Ambiguous/Unsorted	
rnmA	947243	23S rRNA (uracil-5-)methyltransferase rumA				Temporarily Down Regulated	
nudB	946383	Dihydroopterin triphosphate pyrophosphatase				Down Regulated	
recF	948209	DNA replication and repair protein recF				Temporarily Down Regulated	
yecR	946386	Uncharacterized protein yecR		["Inorganic ion transport and metabolism", "Adaptation to stress", "iron ion transport"]		Down Regulated	
cmoB	946387	tRNA (mo5U34)-methyltransferase				Down Regulated	
pgm	945271	Phosphoglucomutase				Ambiguous/Unsorted	
pitA	948009	Low-affinity inorganic phosphate transporter 1				Down Regulated	
seqA	945272	Protein seqA				Temporarily Down Regulated	
tsr	948884	Methyl-accepting chemotaxis protein I				Up Regulated	
yhiQ	948005	UPF0341 protein yhiQ				Temporarily Up Regulated	
rbfB	945276	dTDP-glucose 4,6-dehydratase				Down Regulated	
erfK	945273	Protein erfk/srfK				Temporarily Up Regulated	
uspA	948007	Universal stress protein A				Up Regulated	
yhiI	948003	Uncharacterized protein yhiI	["Protection"]			Up Regulated	
yahB	945278	Uncharacterized HTH-type transcriptional regulator yahB	["Transcription", "RNA related", "Type of regulation", "transcription", "regulation of transcription DNA dependent"]			Temporarily Down Regulated	
cusR	945003	Transcriptional regulatory protein cusR				Down Regulated	
yael	945002	Phosphodiesterase yael				Down Regulated	
oggG	945005	Glucans biosynthesis protein G				Down Regulated	
gyrB	948211	DNA gyrase subunit B				Down Regulated	
pal	945004	Peptidoglycan-associated lipoprotein				Down Regulated	
lacI	945007	Lactose operon repressor				Up Regulated	
trmJ	948610	tRNA (cytidine/uridine-2'-O)-methyltransferase trmJ				Temporarily Down Regulated	
cysI	947231	Sulfite reductase [NADPH] hemoprotein beta-component				Down Regulated	
hisQ	947235	Histidine transport system permease protein hisQ				Down Regulated	
dnaN	948218	DNA polymerase III subunit beta				Down Regulated	
dnaA	948217	Chromosomal replication initiator protein dnaA				Down Regulated	
rpmH	948216	50S ribosomal protein L34				Down Regulated	
yidC	948214	Inner membrane protein oxaA				Down Regulated	
osmY	948895	Osmotically-inducible protein Y				Temporarily Up Regulated	
asnB	945281	Asparagine synthetase B [glutamine-hydrolyzing]				Down Regulated	
fhuF	948891	Ferric iron reductase protein fhuF				Temporarily Up Regulated	
flhA	946390	Flagellar biosynthesis protein flhA				Down Regulated	
ybfF	945288	Esterase ybfF				Ambiguous/Unsorted	
nagA	945289	N-acetylglucosamine-6-phosphate deacetylase				Ambiguous/Unsorted	
yjjG	948899	5'-nucleotidase yjjG				Temporarily Down Regulated	
mrr	948898	Mrr restriction system protein				Temporarily Up Regulated	
pncC	948897	Peptide chain release factor 3				Down Regulated	
yjhX	948066	Inner membrane protein yjhX				Up Regulated	
dppC	948064	Dipeptide transport system permease protein dppC				Down Regulated	
valV	946170	c5541; Z2692; UTI89_C1856; ECDH10B_1799; b1665; E2348C; IRNA31; ECs5461				Temporarily Down Regulated	
eptB	948068	b3546; ECS88_3965; ECIA139_4054; EC55989_3997; E2348C_3793; ECED1_4224; ECUMN_4058; ECDH10B_3725; ECIA1_3705				Temporarily Down Regulated	
yfeA	946864	Uncharacterized protein yfeA	["Signal transduction mechanisms", "Type of regulation", "two component signal transduction system phosphorelay", "regulation of Temporarily Down Regulated				
pykF	946179	Pyruvate kinase I; Pyruvate kinase				Temporarily Up Regulated	
glk	946858	Glucokinase				Up Regulated	
lpp	946175	Major outer membrane lipoprotein				Down Regulated	
ydhR	946177	Putative monooxygenase ydhR				Down Regulated	
ydgA	946172	Protein ydgA				Temporarily Up Regulated	
ynhG	946174	Uncharacterized protein ynhG	[]			Temporarily Up Regulated	
sufE	946173	Cysteine desulfurization protein sufE				Temporarily Up Regulated	
gabD	948060	Succinate-semialdehyde dehydrogenase [NADP+]				Temporarily Up Regulated	
yiaD	948075	Inner membrane lipoprotein yiaD				Temporarily Up Regulated	
glyQ	948079	Glycyl-tRNA synthetase alpha subunit				Down Regulated	
yiaA	948078	Inner membrane protein yiaA				Up Regulated	
ptsI	946879	Phosphoenolpyruvate-protein phosphotransferase				Down Regulated	
yfeK	946876	Uncharacterized protein yfeK	["Defense mechanisms", "Primary Active Transporters", "Protection"]			Up Regulated	
cysK	946877	Cysteine synthase A; Cysteine synthase				Down Regulated	
ydhL	946168	Uncharacterized protein ydhL	["Metabolism of other compounds", "purine nucleotide biosynthetic process"]			Up Regulated	
plsX	946165	Fatty acid/phospholipid synthesis protein plsX				Down Regulated	
nemA	946164	N-ethylmaleimide reductase				Ambiguous/Unsorted	
pdxY	946162	Pyridoxamine kinase				Down Regulated	
yiaG	948071	Uncharacterized HTH-type transcriptional regulator yiaG	["RNA related", "Type of regulation", "Adaptation to stress", "transcription", "regulation of transcription DNA dependent", "response to Temporarily Up Regulated				
yiaF	948072	Uncharacterized protein yiaF	["Carbohydrate transport and metabolism", "Carbon compound utilization", "phosphoenolpyruvate dependent sugar phosphotransf Down Regulated				
yhhJK	948048	c4341; EC55989_3976; ECDH10B_3706; APEC01_2919; ECIA1_3680; b3529; ECIA139_4032; ECED1_4207; ECS88_3943; ECUMN_4036; UTI89_C4061; Z4943; E2348C_3771				Ambiguous/Unsorted	
bcsZ	948046	Endoglucanase				Down Regulated	
bcsB	948045	Cyclic di-GMP-binding protein				Down Regulated	
ybeZ	948044	PhoH-like protein				Temporarily Up Regulated	
pdxK	946881	Pyridoxine kinase				Up Regulated	
kdgK	948041	2-dehydro-3-deoxygluconokinase				Temporarily Up Regulated	
cysU	946882	Sulfate transport system permease protein cysT				Down Regulated	
cysP	946883	Thiosulfate-binding protein				Down Regulated	
ptsH	946886	Phosphocarrier protein HPr				Down Regulated	
yfeS	946887	Uncharacterized protein yfeS	[]			Down Regulated	

cysM	946888	Cysteine synthase B; Cysteine synthase		Down Regulated	
rsvG	946158	Electron transport complex protein rnfG		Down Regulated	
leuE	946157	Leucine efflux protein		Down Regulated	
yhjJ	948040	Protein yhjJ		Down Regulated	
hdhA	946151	7-alpha-hydroxysteroid dehydrogenase		Temporarily Up Regulated	
murC	946153	UDP-N-acetylmuramate-L-alanine ligase		Down Regulated	
yhjV	948057	Inner membrane transport protein yhjV		Temporarily Down Regulated	
csrR	948055	Uncharacterized HTH-type transcriptional regulator ygaE		Ambiguous/Unsorted	
prpE	946881	Propionate-CoA ligase		Up Regulated	
cyoC	946897	Cytochrome o ubiquinol oxidase subunit 3		Down Regulated	
mntH	946899	Manganese transport protein mntH		Up Regulated	
uidA	946149	Beta-glucuronidase		Up Regulated	
rsvB	946146	Electron transport complex protein rnfB		Temporarily Down Regulated	
topB	946141	DNA topoisomerase 3		Down Regulated	
pntB	946144	NAD(P) transhydrogenase subunit beta		Down Regulated	
tgsA	946142	AI-2 transport protein tgsA		Temporarily Down Regulated	
fadL	946820	Long-chain fatty acid transport protein		Temporarily Up Regulated	
fecE	948819	Fe(3+) dicarboxylate transport ATP-binding protein fecE		Down Regulated	
dnaJ	944753	Chaperone protein dnaJ		Down Regulated	
dnaK	944750	Chaperone protein dnaK		Temporarily Up Regulated	
aroC	946814	Chorismate synthase		Down Regulated	
sixA	946815	Phosphohistidine phosphatase sixA		Up Regulated	
fecD	946816	Fe(3+) dicarboxylate transport system permease protein fecD		Down Regulated	
insB	944743	Insertion element IS1 2/3 protein insB; Insertion element IS1 2/3/4 protein insA; Insertion element IS1 protein insA; Insertion element IS1 4 protein insB; Insertion element IS1 1/5/6 protein ins	Ambiguous/Unsorted		
sspA	944744	Stringent starvation protein A		Down Regulated	
nfrA	944741	Bacteriophage N4 adsorption protein A		Ambiguous/Unsorted	
efeO	945603	UPF0409 protein ycdO		Temporarily Up Regulated	
putP	945602	Sodium/proline symporter		Down Regulated	
yceA	945601	UPF0176 protein yceA		Down Regulated	
ypfG	946828	Uncharacterized protein ypfG	['Transcription', ' RNA related', ' Type of regulation', 'transcription', 'regulation of transcription DNA dependent']	Temporarily Down Regulated	
evgS	946844	Sensor protein evgS; Sensor protein		Temporarily Down Regulated	
BAX	948089	Protein bax		Temporarily Down Regulated	
ydiI	946190	Esterase ydiI		Down Regulated	
malS	948088	Alpha-amylase		Down Regulated	
sapB	946191	Peptide transport system permease protein sapB		Temporarily Up Regulated	
xvir	948086	Xylose operon regulatory protein		Up Regulated	
ygcE	946193	Uncharacterized sugar kinase ygcE	[' Central intermediary metabolism', 'carbohydrate metabolic process']	Temporarily Up Regulated	
yiaJ	948084	HTH-type transcriptional regulator yiaJ		Ambiguous/Unsorted	
ydiH	946194	Uncharacterized protein ydiH	['proteolysis']	Temporarily Down Regulated	
trxA	948289	Thioredoxin-1		Temporarily Down Regulated	
yafE	946197	Uncharacterized protein yafE	['Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid biosynthetic process']	Ambiguous/Unsorted	
glyS	948080	Glycyl-tRNA synthetase beta subunit		Down Regulated	
ilvY	948284	HTH-type transcriptional regulator ilvY		Temporarily Down Regulated	
rstA	946199	Transcriptional regulatory protein rstA		Down Regulated	
ilvL	948283	IlvGMEDA operon leader peptide		Temporarily Up Regulated	
dsdA	946837	D-serine dehydratase; D-serine dehydratase 1		Ambiguous/Unsorted	
fecB	946838	Fe(3+) dicarboxylate-binding periplasmic protein		Temporarily Up Regulated	
fecI	946839	Probable RNA polymerase sigma factor fecI; RNA polymerase sigma factor		Up Regulated	
yjhP	946851	Uncharacterized protein yjhP	['Replication recombination and repair']	Up Regulated	
yfcC	946857	Uncharacterized protein yfcC	[]	Up Regulated	
ypeC	946855	Uncharacterized protein ypeC	['Energy production and conversion']	Temporarily Up Regulated	
rhIB	948290	ATP-dependent RNA helicase rhIB		Down Regulated	
gpp	948291	Guanosine-5'-triphosphate 3'-diphosphate pyrophosphatase		Down Regulated	
yjjP	948812	Inner membrane protein yjjP		Ambiguous/Unsorted	
rep	948292	ATP-dependent DNA helicase rep		Down Regulated	
wzyE	948293	Putative ECA polymerase		Down Regulated	
ydhZ	946180	Uncharacterized protein ydhZ	[]	Temporarily Up Regulated	
rffH	948299	Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thymidylyltransferase 2		Down Regulated	
sufS	946185	Cysteine desulfurase		Temporarily Up Regulated	
ydiK	946183	UPF0118 inner membrane protein ydiK		Ambiguous/Unsorted	
insG	948805	Transposase insG for insertion sequence element IS4		Up Regulated	
yneE	946188	UPF0187 protein yneE		Down Regulated	
wzxE	948294	Protein wzxE		Down Regulated	
hyi	946186	Hydroxypyruvate isomerase		Ambiguous/Unsorted	
yjhB	948807	Putative metabolite transport protein yjhB		Up Regulated	
rfaA	948296	Lipopolysaccharide biosynthesis protein rfaA		Down Regulated	
ipcA	949134	Phosphoheptose isomerase		Ambiguous/Unsorted	
acpH	949132	Acy carrier protein phosphodiesterase		Up Regulated	
secD	949133	Protein-export membrane protein secD		Down Regulated	
tgt	949130	Queoine tRNA-ribosyltransferase		Down Regulated	
malZ	949131	Maltodextrin glucosidase		Down Regulated	
puuA	946202	Gamma-glutamylputrescine synthetase		Down Regulated	
trpA	946204	Tryptophan synthase alpha chain		Down Regulated	
leuD	945642	3-isopropylmalate dehydratase small subunit		Down Regulated	

yadD	944781	Uncharacterized protein yadD	['Replication recombination and repair', 'DNA recombination']	Temporarily Up Regulated
ydjM	945644	Inner membrane protein ydjM		Up Regulated
araC	944780	Arabinose operon regulatory protein		Up Regulated
ydiE	946205	Uncharacterized protein ydiE	['Amino acid transport and metabolism', 'Building block biosynthesis', 'metabolic process', 'biosynthetic process', 'aromatic amino acid transport and metabolism']	Up Regulated
flgL	945646	Flagellar hook-associated protein 3		Down Regulated
ydiA	946207	Uncharacterized protein yuaU; Putative phosphotransferase [I]		Ambiguous/Unsorted
ppsR	946207	Uncharacterized protein yuaU; Putative phosphotransferase ydiA		Ambiguous/Unsorted
flgG	945647	Flagellar basal-body rod protein flgG		Down Regulated
baeR	946605	Transcriptional regulatory protein baeR		Up Regulated
ubiG	946607	3-demethylubiquinone-9 3-methyltransferase		Down Regulated
rfe	944789	UDP-N-acetylglucosamine 2-epimerase		Temporarily Down Regulated
ydiB	946200	Quinate/shikimate dehydrogenase		Temporarily Down Regulated
nrdA	946612	Ribonucleoside-diphosphate reductase; Ribonucleoside-diphosphate reductase 1 subunit alpha		Down Regulated
ybiS	945441	Uncharacterized protein ybiS	['phosphoenolpyruvate dependent sugar phosphotransferase system']	Ambiguous/Unsorted
gyrA	946614	DNA gyrase subunit A		Down Regulated
hicB	946001	Uncharacterized HTH-type transcriptional regulator ydcQ		Up Regulated
ydcQ	946001	Uncharacterized HTH-type transcriptional regulator ydcQ	['Coenzyme transport and metabolism']	Up Regulated
fabH	946003	3-oxoacyl-[acyl-carrier-protein] synthase 3		Down Regulated
gitJ	945443	Glutamate/aspartate transport system permease protein gitJ		Down Regulated
ydcR	946004	Uncharacterized HTH-type transcriptional regulator ydcR	[I]	Up Regulated
flgF	945639	Flagellar basal-body rod protein flgF		Down Regulated
yceF	945631	Maf-like protein yceF 1; Maf-like protein yceF		Up Regulated
yniC	945632	Phosphatase yniC		Temporarily Down Regulated
tolB	945429	Protein tolB		Down Regulated
ydiU	946219	UPF0061 protein ydiU		Down Regulated
pspD	945635	Phage shock protein D		Up Regulated
folA	944790	Dihydrofolate reductase; Dihydrofolate reductase type 1		Temporarily Up Regulated
flgE	945636	Flagellar hook protein flgE		Down Regulated
yaah	944792	Inner membrane protein yaah		Ambiguous/Unsorted
flgN	945634	Flagella synthesis protein flgN		Down Regulated
murE	944791	UDP-N-acetylmuramoyl-L-alanyl-D-glutamate--2,6-diaminopimelate ligase		Down Regulated
aceF	944794	Dihydrolipoylysine-residue acetyltransferase component of pyruvate dehydrogenase complex		Down Regulated
setA	944793	Sugar efflux transporter A		Temporarily Down Regulated
leuB	944798	3-isopropylmalate dehydrogenase		Down Regulated
otsB	946406	Trehalose-phosphate phosphatase		Up Regulated
ftsI	944799	Peptidoglycan synthetase ftsI		Down Regulated
yncB	946012	Putative NADP-dependent oxidoreductase yncB		Ambiguous/Unsorted
ycIG	946013	Z2450; ECUMN_1620; ECED1_1533; ECDH10B_1444; b1325; UTI89_C1596; E2348C_1518; ECIA1_1350; c1797; APEC01_478; ECS88_1467; ECIA139_1677; EC55989_1489		Temporarily Down Regulated
ycCA	946016	Inner membrane protein yccA		Down Regulated
ybiJ	945433	Uncharacterized protein ybiJ	[I]	Up Regulated
araB	946017	Ribulokinase		Up Regulated
glnQ	945435	Glutamine transport ATP-binding protein glnQ		Down Regulated
yfcA	946808	UPF0721 transmembrane protein yfcA		Down Regulated
csgC	945623	Putative curli production protein csgC		Down Regulated
yfcL	946804	Uncharacterized protein yfcL	['Cell wall membrane envelope biogenesis', 'amino acid biosynthetic process', 'aromatic amino acid family biosynthetic process']	Down Regulated
yibG	946803	b0502; ECDH10B_0458		Down Regulated
ribD	945620	Riboflavin biosynthesis protein ribD		Down Regulated
glnP	945621	Glutamine transport system permease protein glnP		Temporarily Down Regulated
dapB	944762	Dihydrodipicolinate reductase		Down Regulated
ileS	944761	Isoleucyl-tRNA synthetase		Down Regulated
hcaD	945427	3-phenylpropionate/cinnamic acid dioxygenase ferredoxin-NAD(+) reductase component		Temporarily Up Regulated
mpmA	946812	Penicillin-insensitive murein endopeptidase		Down Regulated
ybiH	945421	Uncharacterized HTH-type transcriptional regulator ybiH	['Defense mechanisms', 'Primary Active Transporters']	Ambiguous/Unsorted
exbB	945420	Biopolymer transport protein exbB		Down Regulated
cyoB	945615	Ubiquinol oxidase subunit 1		Down Regulated
ndk	945611	Nucleoside diphosphate kinase		Temporarily Down Regulated
msyB	945612	Acidic protein msyB		Temporarily Up Regulated
rbbA	947798	Uncharacterized ABC transporter ATP-binding protein yhiH		Temporarily Up Regulated
carB	944775	Carbamoyl-phosphate synthase large chain		Down Regulated
ftsA	944778	Cell division protein ftsA		Down Regulated
nikR	947995	Nickel-responsive regulator		Temporarily Up Regulated
sspB	944774	Stringent starvation protein B		Down Regulated
kefC	944773	Glutathione-regulated potassium-efflux system protein kefC		Ambiguous/Unsorted
rpmD	947797	50S ribosomal protein L30		Down Regulated
secY	947799	Preprotein translocase subunit secY; Preprotein translocase secY subunit		Down Regulated
rplO	947798	50S ribosomal protein L15		Down Regulated
rpsD	947793	30S ribosomal protein S4		Down Regulated
rpsK	947792	30S ribosomal protein S11		Down Regulated
rpsE	947795	30S ribosomal protein S5		Down Regulated
rpoA	947794	DNA-directed RNA polymerase subunit alpha		Down Regulated
rpsM	947791	30S ribosomal protein S13; 30S ribosomal protein		Down Regulated
metC	946240	Cystathionine beta-lyase metC		Down Regulated
ybdG	946243	Uncharacterized protein ybdG	[I]	Down Regulated
pspF	945683	Psp operon transcriptional activator		Down Regulated

potD	945682	Spermidine/putrescine-binding periplasmic protein			Down Regulated	
fiu	946246	Catecholate siderophore receptor fiu			Temporally Up Regulated	
cobB	945687	NAD-dependent deacetylase			Up Regulated	
panD	945686	Aspartate 1-decarboxylase			Down Regulated	
nudJ	945689	Phosphatase nudJ			Down Regulated	
ybhL	945401	Inner membrane protein ybhL			Temporally Up Regulated	
rplQ	947784	50S ribosomal protein L17			Down Regulated	
trkA	947788	Trk system potassium uptake protein trkA			Up Regulated	
yhdN	947785	Uncharacterized protein yhdN	[]		Ambiguous/Unsorted	
yehQ	946654	ECIA139_0891; E2348C_2268; APEC01_4427; c2652; ECS88_2265; b2122; Z3295; ECED1_2478; ECUMN_2456; UTI89_C2394; ECDH10B_2277; ECIA1_2198			Up Regulated	
spy	946253	Spheroplast protein Y			Up Regulated	
ycfP	945676	UPF0227 protein ycfP			Temporally Up Regulated	
astB	946259	N-succinylarginine dihydrolase			Ambiguous/Unsorted	
lptE	946257	LPS-assembly lipoprotein lptE			Down Regulated	
lolC	945673	Lipoprotein-releasing system transmembrane protein lolC			Down Regulated	
flgB	945678	Flagellar basal-body rod protein flgB			Down Regulated	
parE	947501	DNA topoisomerase 4 subunit B			Down Regulated	
ybiX	947502	PKHD-type hydroxylase ybiX			Ambiguous/Unsorted	
yrdB	947774	Uncharacterized protein yrdB	["Building block biosynthesis", "purine nucleotide biosynthetic process", "aromatic amino acid family biosynthetic process"]		Temporally Down Regulated	
yrdA	947775	Protein yrdA			Down Regulated	
fmt	947779	Methionyl-tRNA formyltransferase			Ambiguous/Unsorted	
nlpC	946220	Probable lipoprotein nlpC			Up Regulated	
holB	945661	DNA polymerase III subunit delta'			Down Regulated	
thrS	946222	Threonyl-tRNA synthetase			Down Regulated	
mrp	946627	Protein mrp			Ambiguous/Unsorted	
pntA	946628	NAD(P) transhydrogenase subunit alpha			Down Regulated	
ycfS	945666	Uncharacterized protein ycfS	[]		Down Regulated	
aroH	946229	Phospho-2-dehydro-3-deoxyheptonate aldolase, Trp-sensitive			Down Regulated	
infC	946225	Translation initiation factor IF-3			Down Regulated	
accC	947761	Biotin carboxylase			Down Regulated	
aaeR	947760	HTH-type transcriptional activator aaeR			Up Regulated	
yhdV	947767	Uncharacterized protein yhdV	["Electrochemical potential driven transporters", "Protection", "cell cycle", "cell division"]		Up Regulated	
acrF	947768	Acriflavine resistance protein F			Up Regulated	
yagV	946631	Uncharacterized protein yagV	[]		Up Regulated	
yegU	946630	Uncharacterized protein yegU	[]		Down Regulated	
yhdY	947764	Inner membrane amino-acid ABC transporter permease protein yhdY			Down Regulated	
yceD	945650	Uncharacterized protein yceD	[]		Down Regulated	
ydiZ	946232	Uncharacterized protein ydiZ	["Carbon compound utilization", "Energy metabolism carbon", "translation"]		Temporally Up Regulated	
yfaA	946618	Uncharacterized protein yfaA	["Replication recombination and repair", "RNA related", "Type of regulation"]		Ambiguous/Unsorted	
rpmF	945657	50S ribosomal protein L32			Down Regulated	
ycfH	945656	Uncharacterized deoxyribonuclease ycfH	[]		Temporally Up Regulated	
ydjN	946238	Uncharacterized symporter ydjN	[]		Down Regulated	
yhcH	947750	Uncharacterized protein yhcH	["Carbohydrate transport and metabolism", "carbohydrate metabolic process"]		Up Regulated	
flgK	945648	Flagellar hook-associated protein 1			Down Regulated	
fhuE	945649	FhuE receptor			Ambiguous/Unsorted	
yegS	946626	Probable lipid kinase yegS; Lipid kinase yegS			Up Regulated	
mreD	947756	Rod shape-determining protein mreD			Temporally Down Regulated	
nanK	947757	N-acetylmannosamine kinase			Temporally Up Regulated	
tolA	946625	Protein tolA			Down Regulated	
accB	947758	Biotin carboxyl carrier protein of acetyl-CoA carboxylase			Down Regulated	
hpt	946624	Hypoxanthine phosphoribosyltransferase			Down Regulated	
ccmH	946623	Cytochrome c-type biogenesis protein ccmH			Down Regulated	
cyaA	947755	Adenylate cyclase			Temporally Down Regulated	
nanE	947745	Putative N-acetylmannosamine-6-phosphate 2-epimerase			Up Regulated	
aaeA	947748	p-hydroxybenzoic acid efflux pump subunit aaeA			Up Regulated	
aaeB	947747	p-hydroxybenzoic acid efflux pump subunit aaeB			Up Regulated	
gigS	947533	Glycogen synthesis protein gigS			Up Regulated	
hybC	945182	Hydrogenase-2 large chain			Up Regulated	
flgI	947534	Flagellar P-ring protein			Down Regulated	
yeiL	946694	UPF0352 protein yeiL			Ambiguous/Unsorted	
yqiK	947537	Inner membrane protein yqiK			Up Regulated	
rtn	946695	Protein rtn			Temporally Down Regulated	
nanT	947740	Putative sialic acid transporter; Putative sialic acid transporter 1			Up Regulated	
lpxT	946693	Inner membrane protein yeiU			Down Regulated	
feP	947538	Ferrienterobactin-binding periplasmic protein			Ambiguous/Unsorted	
yeEN	946493	UPF0082 protein yeEN			Temporally Down Regulated	
guAA	947334	GMP synthase [glutamine-hydrolyzing]			Down Regulated	
rhcC	948317	Threonine efflux protein			Down Regulated	
sulA	947335	Cell division inhibitor sulA			Up Regulated	
tatB	948319	Sec-independent protein translocase protein tatB homolog; Sec-independent protein translocase protein tatB			Down Regulated	
dapE	948313	Succinyl-diaminopimelate desuccinylase			Ambiguous/Unsorted	
pldB	948314	Lysophospholipase L2			Temporally Down Regulated	
shiA	946495	Shikimate transporter			Down Regulated	
RhtB	948316	Homoserine/homoserine lactone efflux protein			Down Regulated	

yhcG	947739	Uncharacterized protein yhcG	[" Macromolecule degradation"]	Down Regulated	
glgB	947940	1,4-alpha-glucan-branched enzyme		Down Regulated	
metR	948310	HTH-type transcriptional regulator metR		Up Regulated	
hemY	948311	Protein hemY		Down Regulated	
glgX	947941	Glycogen debranching enzyme		Up Regulated	
yeoJ	946498	Uncharacterized protein yeoJ		Up Regulated	
ushA	947331	Protein ushA		Down Regulated	
yejM	946685	Inner membrane protein yejM		Down Regulated	
aroB	947927	3-dehydroquinate synthase		Down Regulated	
flgC	946687	Flagellar basal-body rod protein flgC		Down Regulated	
nuoM	947731	NADH-quinone oxidoreductase subunit M		Down Regulated	
yrbG	947730	Inner membrane protein yrbG		Ambiguous/Unsorted	
yejF	946689	Uncharacterized ABC transporter ATP-binding protein yejF		Down Regulated	
ppgA	947542	Phosphatidylglycerophosphate A		Up Regulated	
ahpF	947540	Alkyl hydroperoxide reductase subunit F		Down Regulated	
kdsD	947734	Arabinose 5-phosphate isomerase		Down Regulated	
rtcB	947929	Protein rtcB		Temporarily Up Regulated	
yggG	945173	Uncharacterized metalloprotease yggG	[]	Up Regulated	
osmF	946681	Putative osmoprotectant uptake system substrate-binding protein osmF		Temporarily Up Regulated	
bglX	946682	Periplasmic beta-glucosidase		Temporarily Down Regulated	
rfaE	947548	Bifunctional protein rfaE		Down Regulated	
flgM	946684	Negative regulator of flagellin synthesis		Down Regulated	
yodA	946480	Metal-binding protein yodA		Up Regulated	
zinT	946480	Metal-binding protein yodA		Up Regulated	
yneA	947348	Uncharacterized protein yneA	[]	Up Regulated	
hchA	946481	Chaperone protein hchA		Ambiguous/Unsorted	
pldA	948307	Phospholipase A1		Down Regulated	
yedW	946486	Probable transcriptional regulatory protein yedW		Temporarily Down Regulated	
damX	947930	Protein damX		Down Regulated	
rffG	948300	dTDP-glucose 4,6-dehydratase		Down Regulated	
glgP	947931	Phosphorylase; Glycogen phosphorylase		Down Regulated	
rffM	948301	Probable UDP-N-acetyl-D-mannosaminuronic acid transferase		Down Regulated	
yhbJ	947727	UPF0042 protein yhbJ		Down Regulated	
glpE	947935	Thiosulfate sulfurtransferase glpE		Temporarily Down Regulated	
glgA	947932	Glycogen synthase		Temporarily Up Regulated	
gltB	947724	Glutamate synthase [NADPH] large chain		Down Regulated	
gltD	947723	Glutamate synthase [NADPH] small chain		Down Regulated	
speE	947726	Spermidine synthase		Down Regulated	
ampE	946678	Protein ampE		Ambiguous/Unsorted	
lptB	947725	Lipopolysaccharide export system ATP-binding protein lptB		Down Regulated	
fruK	946676	1-phosphofructokinase		Temporarily Up Regulated	
secG	947720	Protein-export membrane protein secG		Down Regulated	
npr	947914	Phosphocarrier protein NPr		Ambiguous/Unsorted	
yeiP	946674	Elongation factor P-like protein		Down Regulated	
lptC	947722	Lipopolysaccharide export system protein lptC		Down Regulated	
bioH	947916	Carboxylesterase bioH		Down Regulated	
fruA	946672	PTS system fructose-specific EIIBC component		Temporarily Up Regulated	
aes	947514	Acetyl esterase		Up Regulated	
araA	947511	L-arabinose isomerase		Up Regulated	
lptT	947317	Lysophospholipid transporter lptT		Temporarily Up Regulated	
kdul	947319	4-deoxy-L-threo-5-hexosulose-uronate ketol-isomerase		Down Regulated	
yafC	947507	Uncharacterized HTH-type transcriptional regulator yafC	["Transcription", " RNA related", " Type of regulation", "transcription", "regulation of transcription DNA dependent"]	Up Regulated	
rsxE	947509	Electron transport complex protein rnfE		Down Regulated	
galR	947314	HTH-type transcriptional regulator galR		Temporarily Down Regulated	
malP	947922	Phosphorylase; Maltodextrin phosphorylase		Down Regulated	
malQ	947923	4-alpha-glucanotransferase		Down Regulated	
gntT	947924	High-affinity gluconate transporter		Down Regulated	
kdsC	947717	3-deoxy-D-manno-octulonate 8-phosphate phosphatase		Ambiguous/Unsorted	
hpf	947718	Probable sigma(54) modulation protein		Down Regulated	
pspB	945893	Phage shock protein B		Up Regulated	
speD	947719	S-adenosylmethionine decarboxylase proenzyme		Down Regulated	
lptA	947920	Lipopolysaccharide export system protein lptA		Down Regulated	
speB	947715	Agmatinase		Down Regulated	
yeiH	946668	UPF0324 inner membrane protein yeiH; Probable endonuclease 4		Up Regulated	
ybjQ	945493	UPF0145 protein ybjQ		Up Regulated	
rpoN	947714	RNA polymerase sigma-54 factor		Down Regulated	
nfo	946669	Endonuclease 4; Probable endonuclease 4		Down Regulated	
yrbD	947712	Uncharacterized protein yrbD	["Amino acid transport and metabolism"]	Down Regulated	
mlaD	947712	Uncharacterized protein yrbD		Down Regulated	
ybjS	945495	Uncharacterized protein ybjS	[]	Ambiguous/Unsorted	
aat	945490	Leucyl/phenylalanyl-tRNA-protein transferase		Down Regulated	
nudE	947906	ADP compounds hydrolase nudE		Down Regulated	
mlaC	947710	Protein yrbC		Down Regulated	
yrbC	947710	Protein yrbC		Down Regulated	

yohD	946661	Inner membrane protein yohD		Ambiguous/Unsorted	
thrC	945198	Threonine synthase		Down Regulated	
ppbG	946662	D-alanyl-D-alanine endopeptidase		Ambiguous/Unsorted	
ybjD	945498	Uncharacterized protein ybjD	['SOS response']	Temporarily Up Regulated	
entD	945194	4'-phosphopantetheinyl transferase entD		Temporarily Up Regulated	
rpmA	945190	50S ribosomal protein L27		Down Regulated	
cusA	945191	Cation efflux system protein cusA		Down Regulated	
phoP	945697	Transcriptional regulatory protein phoP		Ambiguous/Unsorted	
yiaC	946460	Uncharacterized N-acetyltransferase yiaC	['amino acid biosynthetic process']	Temporarily Down Regulated	
nudF	947519	ADP-ribose pyrophosphatase		Down Regulated	
hsr	947912	Heat shock protein 15		Ambiguous/Unsorted	
potC	945691	Spermidine/putrescine transport system permease protein potC		Down Regulated	
ymdC	947321	Uncharacterized protein ymdC	[]	Down Regulated	
ompR	947913	Transcriptional regulatory protein ompR		Temporarily Up Regulated	
hfID	945693	ECIA1_1170; ECS88_1147; ECDH10B_1204; b1132; ECIA139_2005; ECED1_1276; E2348C_1273; ECUMN_1376; EC55989_1245		Temporarily Down Regulated	
dusB	947707	tRNA-dihydrouridine synthase B		Down Regulated	
prmA	947708	Ribosomal protein L11 methyltransferase		Down Regulated	
arpP	945489	Arginine transport ATP-binding protein arpP		Ambiguous/Unsorted	
ygiD	947578	Probable O-sialoglycoprotein endopeptidase		Ambiguous/Unsorted	
murJ	945487	Virulence factor murJ homolog		Down Regulated	
potF	945480	Putrescine-binding periplasmic protein		Temporarily Up Regulated	
ybjC	945481	Uncharacterized protein ybjC	['Energy production and conversion', 'Translation ribosomal structure and biogenesis', 'Energy metabolism carbon', 'Building blocks of cell wall peptidoglycan']	Ambiguous/Unsorted	
dnaG	947570	DNA primase		Up Regulated	
gmr	945868	Protein gmr		Down Regulated	
rimK	945484	Ribosomal protein S6 modification protein		Down Regulated	
holA	947573	DNA polymerase III subunit delta		Down Regulated	
potI	945485	Putrescine transport system permease protein potI		Temporarily Up Regulated	
scrD	947702	Uncharacterized protein yhdA		Temporarily Down Regulated	
murA	947703	UDP-N-acetylglucosamine 1-carboxyvinyltransferase		Down Regulated	
btuF	947574	Vitamin B12-binding protein		Down Regulated	
srA	947575	Glcuto/sorbitol permease IIC component		Temporarily Up Regulated	
yhhQ	947984	Inner membrane protein yhhQ		Ambiguous/Unsorted	
ymjA	945874	Uncharacterized protein ymjA	['Amino acid transport and metabolism', 'Electrochemical potential driven transporters']	Ambiguous/Unsorted	
ribE	9464536	7-dimethyl-8-ribityllumazine synthase		Down Regulated	
yhhS	947982	UPF0226 protein yhhS		Temporarily Down Regulated	
potG	945476	Putrescine transport ATP-binding protein potG		Temporarily Up Regulated	
tyrR	945879	Transcriptional regulatory protein tyrR		Up Regulated	
ftsX	947969	Cell division protein ftsX		Down Regulated	
ybjI	945470	Phosphatase ybjI		Up Regulated	
ybjJ	945471	Inner membrane protein ybjJ		Temporarily Down Regulated	
ihfA	945472	Integration host factor subunit alpha		Down Regulated	
ybjK	945473	Uncharacterized HTH-type transcriptional regulator ybjK	['translation', 'ion transport']	Up Regulated	
puuD	945882	Gamma-glutamyl-gamma-aminobutyrate hydrolase		Down Regulated	
yhhN	947973	Uncharacterized membrane protein yhhN	[' Energy metabolism carbon ']	Ambiguous/Unsorted	
ybaV	945884	Uncharacterized protein ybaV	[]	Up Regulated	
pspA	945887	Phage shock protein A		Up Regulated	
puuR	945886	HTH-type transcriptional regulator puuR		Ambiguous/Unsorted	
ygdR	947304	Uncharacterized lipoprotein ygdR	['Amino acid transport and metabolism', 'Building block biosynthesis', 'amino acid metabolic process']	Temporarily Up Regulated	
hemD	948587	Uroporphyrinogen-III synthase		Down Regulated	
livJ	947971	Leu/Ile/Val-binding protein		Down Regulated	
rpoH	947970	RNA polymerase sigma-32 factor; RNA polymerase sigma factor		Up Regulated	
ascG	947305	HTH-type transcriptional regulator ascG		Temporarily Down Regulated	
ygiF	947554	Uncharacterized protein ygiF	['Amino acid transport and metabolism']	Temporarily Down Regulated	
ylli	945467	Soluble aldose sugar dehydrogenase ylli		Up Regulated	
ygiM	947555	Uncharacterized protein ygiM		Down Regulated	
rimO	945465	Ribosomal protein S12 methylthiotransferase rimO		Down Regulated	
yifF	945463	Uncharacterized membrane protein yifF	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcriptional regulation by small molecules']	Up Regulated	
bacA	947551	Undecaprenyl-diphosphate kinase		Down Regulated	
gsiC	945460	Glutathione transport system permease protein gsiC		Ambiguous/Unsorted	
gsiD	945461	Glutathione transport system permease protein gsiD		Down Regulated	
ribC	945848	Riboflavin synthase alpha chain		Ambiguous/Unsorted	
yrbA	947958	Uncharacterized protein yrbA	['Amino acid transport and metabolism', 'Building block biosynthesis', 'amino acid biosynthetic process']	Down Regulated	
trpE	945446	Anthranilate synthase component 1		Down Regulated	
livM	947966	High-affinity branched-chain amino acid transport system permease protein livM		Temporarily Up Regulated	
ampG	946438	Protein ampG		Down Regulated	
yicE	948577	Uncharacterized Na(+)/H(+) exchanger yicE	['rRNA processing']	Down Regulated	
livH	947965	High-affinity branched-chain amino acid transport system permease protein livH		Temporarily Up Regulated	
ydgD	946436	Uncharacterized serine protease ydgD	['response to stress']	Up Regulated	
livG	947967	High-affinity branched-chain amino acid transport ATP-binding protein livG		Temporarily Up Regulated	
livF	947961	High-affinity branched-chain amino acid transport ATP-binding protein livF		Down Regulated	
yhhK	947963	Uncharacterized protein yhhK	['Carbon compound utilization', 'Metabolism of other compounds']	Down Regulated	
ybeY	946430	Putative metalloprotease ybeY		Temporarily Up Regulated	
ghra	946431	Glyoxylate/hydroxypyruvate reductase A		Down Regulated	
yicH	948574	Inner membrane protein yicH		Ambiguous/Unsorted	

gsiA	945457	Glutathione import ATP-binding protein gsiA		Down Regulated		
gsiB	945459	Glutathione-binding protein gsiB		Down Regulated		
rpoD	947567	RNA polymerase sigma factor rpoD; RNA polymerase sigma factor		Temporally Down Regulated		
moeA	945454	Molybdopterin biosynthesis protein moeA		Down Regulated		
dacC	945455	D-alanyl-D-alanine carboxypeptidase dacC		Temporally Up Regulated		
iaaA	945456	Isoaspartyl peptidase		Down Regulated		
folC	945451	Bifunctional protein folC		Down Regulated		
moeB	945452	Molybdopterin biosynthesis protein moeB		Ambiguous/Unsorted		
mug	947560	G/U mismatch-specific DNA glycosylase		Ambiguous/Unsorted		
ggt	947947	Gamma-glutamyltranspeptidase		Up Regulated		
ycIW	945859	Uncharacterized protein yciW	["Lipid transport and metabolism"]	Down Regulated		
proB	946425	Glutamate 5-kinase		Ambiguous/Unsorted		
yjcB	948569	Uncharacterized protein yjcB	[]	Down Regulated		
rnb	945864	Exoribonuclease 2		Down Regulated		
soxR	948566	Redox-sensitive transcriptional activator soxR		Up Regulated		
fecA	946427	Fe(3+) dicarboxylate transport protein fecA		Down Regulated		
soxS	948567	Regulatory protein soxS		Temporally Up Regulated		
yrbB	947954	Uncharacterized protein yrbB	["Cell wall membrane envelope biogenesis", "Macromolecules cellular constituent biosynthesis", "cell cycle", "cell division"]	Down Regulated		
mlaB	947954	Uncharacterized protein yrbB		Down Regulated		
ugpC	947953	sn-glycerol-3-phosphate import ATP-binding protein ugpC		Temporally Up Regulated		
ydfI	945861	Uncharacterized oxidoreductase ydfI	["Carbon compound utilization"]	Temporally Down Regulated		
ycIN	945860	Protein yciN		Temporally Up Regulated		
pgpB	945863	Phosphatidylglycerophosphatase B		Down Regulated		
topA	945862	DNA topoisomerase 1		Down Regulated		
uvrY	946424	Response regulator uvrY		Ambiguous/Unsorted		
yjbR	948560	Uncharacterized protein yjbR	["Amino acid transport and metabolism", "Central intermediary metabolism", "amino acid biosynthetic process", "biosynthetic process"]	Temporally Down Regulated		
alr	948564	Alanine racemase, biosynthetic; Alanine racemase		Down Regulated		
yjcD	948565	Putative permease yjcD		Temporally Up Regulated		
dapF	948364	Diaminopimelate epimerase		Down Regulated		
ydgC	945156	Inner membrane protein ydgC		Temporally Down Regulated		
ydgJ	947164	Uncharacterized oxidoreductase ydgJ	[]	Temporally Down Regulated		
glnL	948360	Nitrogen regulation protein NR(II); Sensor protein		Down Regulated		
glnG	948361	Nitrogen regulation protein NR(I)		Down Regulated		
hemN	948362	Oxygen-independent coproporphyrinogen-III oxidase		Down Regulated		
feaR	945941	Transcriptional activator feaR		Ambiguous/Unsorted		
emrB	947167	Multidrug resistance protein B		Ambiguous/Unsorted		
yihL	948363	UPF0241 protein yihL		Up Regulated		
luxS	947168	S-ribosylhomocysteine lyase		Down Regulated		
iclR	948524	Acetate operon repressor		Down Regulated		
yihL	948368	Uncharacterized HTH-type transcriptional regulator yihL	["Amino acid transport and metabolism", "Carbon compound utilization", "Central intermediary metabolism", "Primary Active Transporter"]	Down Regulated		
rfaB	945154	Glucose-1-phosphate thymidylyltransferase; Glucose-1-phosphate thymidylyltransferase 1		Down Regulated		
ubiE	948926	Ubiquinone/menaquinone biosynthesis methyltransferase ubiE		Down Regulated		
typA	948369	GTP-binding protein typA/BipA; GTP-binding protein typA/bipA		Down Regulated		
prfB	947369	Peptide chain release factor 2		Down Regulated		
yccJ	948930	Uncharacterized protein yccJ	["Macromolecules cellular constituent biosynthesis"]	Temporally Up Regulated		
malY	945937	Protein malY		Temporally Up Regulated		
ybgS	945356	Uncharacterized protein ybgS	["Inorganic ion transport and metabolism", "Electrochemical potential driven transporters", "ion transport"]	Temporally Up Regulated		
Cyca	948725	D-serine/D-alanine/glycine transporter		Down Regulated		
fklB	948726	FKBP-type 22 kDa peptidyl-prolyl cis-trans isomerase		Down Regulated		
ybiO	945935	Uncharacterized mscS family protein ybiO	[]	Temporally Up Regulated		
ytfB	948727	Uncharacterized protein ytfB	["Replication recombination and repair", "DNA recombination", "DNA integration"]	Ambiguous/Unsorted		
galE	945354	UDP-glucose 4-epimerase		Ambiguous/Unsorted		
rpsR	948721	30S ribosomal protein S18		Down Regulated		
priB	948722	Primosomal replication protein n		Down Regulated		
fdx	947160	2Fe-2S ferredoxin		Temporally Down Regulated		
mnkB	945359	Alpha-mannosidase mnkB		Up Regulated		
rpsF	948723	30S ribosomal protein S6		Down Regulated		
ygfA	945167	Uncharacterized protein ygfA	["cell cycle", "cell division"]	Up Regulated		
dtd	948378	D-tyrosyl-tRNA(Tyr) deacylase		Down Regulated		
dbpA	947153	ATP-independent RNA helicase dbpA		Down Regulated		
ycfL	948539	Uncharacterized protein ycfL	["Nucleotide transport and metabolism", "Cell wall membrane envelope biogenesis", "Building block biosynthesis"]	Down Regulated		
yfgI	945168	Uncharacterized protein yfgI	["Lipid transport and metabolism", "Building block biosynthesis"]	Temporally Up Regulated		
malE	948538	Maltose-binding periplasmic protein		Temporally Up Regulated		
malK	948537	Maltose/maltodextrin import ATP-binding protein malK		Down Regulated		
ygaC	947156	Uncharacterized protein ygaC	[]	Up Regulated		
cpdB	948729	ECs5191; ECP_4467; ECSE_4519; EcSMS35_4692; ECUMN_4750; Z5824; EcoIC_3793; ECS88_4807; E2348C_4544; EC55989_4773; ECDH10B_4408; ECED1_5072; ECH74115_5730		Temporally Down Regulated		
trkG	945932	Trk system potassium uptake protein trkG		Up Regulated		
ascF	947154	PTS system arbutin-, cellobiose-, and salicin-specific EIIBC component		Up Regulated		
feaB	945933	Phenylacetaldehyde dehydrogenase		Up Regulated		
malF	948532	Maltose transport system permease protein malF		Down Regulated		
lysC	948531	Aspartokinase; Lysine-sensitive aspartokinase 3		Down Regulated		
pqiA	944999	Paraquat-inducible protein A		Ambiguous/Unsorted		
malG	948530	Maltose transport system permease protein malG		Temporally Up Regulated		
yijC	948918	Probable phosphoglycerate mutase gpmB		Temporally Down Regulated		

macB	945164	Macrolide export ATP-binding/permease protein macB		Temporarily Down Regulated
ybcL	945165	UPF0098 protein ybcL		Up Regulated
yigP	948915	Uncharacterized protein yigP	['protein secretion']	Down Regulated
yidD	948924	Uncharacterized tRNA/tRNA methyltransferase lasT		Ambiguous/Unsorted
ytfH	948730	Uncharacterized HTH-type transcriptional regulator ytfH	[]	Up Regulated
yqeA	947358	Carbamate kinase-like protein yqeA		Temporarily Up Regulated
mocA	947356	Uncharacterized protein ygfJ		Temporarily Up Regulated
ygfJ	947356	Uncharacterized protein ygfJ	['electron transport']	Temporarily Up Regulated
ginA	948370	Glutamine synthetase		Down Regulated
ytfJ	948737	Uncharacterized protein ytfJ		Up Regulated
ytfL	948735	UPF0053 inner membrane protein ytfL		Temporarily Down Regulated
modF	945368	Putative molybdenum transport ATP-binding protein modF		Down Regulated
yaiZ	947355	Uncharacterized protein yaiZ	[]	Ambiguous/Unsorted
gltK	947354	Glutamate/aspartate transport system permease protein gltK		Down Regulated
qorB	948731	Uncharacterized oxidoreductase ytfG		Up Regulated
ygeR	947352	Uncharacterized lipoprotein ygeR		Ambiguous/Unsorted
ygbA	947187	Uncharacterized protein ygbA	['Energy production and conversion', 'Primary Active Transporters']	Up Regulated
msrB	947188	Peptide methionine sulfoxide reductase msrB		Ambiguous/Unsorted
fdol	948383	Formate dehydrogenase, cytochrome b556(fdo) subunit		Down Regulated
malM	948547	Maltose operon periplasmic protein		Temporarily Up Regulated
allS	945139	HTH-type transcriptional activator allS		Up Regulated
ydiA	945964	Putative NAD(P)H nitroreductase ydJA		Down Regulated
yddB	945961	Uncharacterized protein yddB	['Cell wall membrane envelope biogenesis', 'translation', 'ion transport']	Temporarily Up Regulated
hinT	948549	HIT-like protein hinT		Down Regulated
ybdJ	947183	Uncharacterized protein ybdJ	['Protection', 'ion transport', 'iron ion transport']	Up Regulated
nuoN	945136	NADH-quinone oxidoreductase subunit N		Down Regulated
MltB	947184	Membrane-bound lytic murein transglycosylase B		Temporarily Down Regulated
lamB	948548	Maltoporin		Down Regulated
frvX	948388	Putative frv operon protein frvX		Ambiguous/Unsorted
yflL	947106	Uncharacterized protein yflL	['Replication recombination and repair', 'DNA recombination']	Temporarily Up Regulated
norR	947186	Anaerobic nitric oxide reductase transcription regulator norR		Up Regulated
tus	945135	DNA replication terminus site-binding protein		Up Regulated
recN	947105	DNA repair protein recN		Ambiguous/Unsorted
pmrD	945130	Signal transduction protein pmrD		Ambiguous/Unsorted
ffh	947102	Signal recognition particle protein		Temporarily Down Regulated
rimM	947101	Ribosome maturation factor rimM		Down Regulated
dgkA	948543	Diacylglycerol kinase		Ambiguous/Unsorted
mtn	948542	5'-methylthioadenosine/S-adenosylhomocysteine nucleosidase		Down Regulated
ylaB	948951	Uncharacterized protein ylaB	['Signal transduction mechanisms', 'Type of regulation', 'two component signal transduction system phosphorelay', 'transcription']	Up Regulated
yibA	948108	Protein yibA		Up Regulated
visC	947389	Protein visC		Down Regulated
efeU	948956	ECUMN_1201; ECIAI39_2139; ECS88_1033; ECDH10B_1089; EC55989_1127; b4490; ECED1_1172; ECIAI1_1062; E2348C_1067		Up Regulated
hypE	947182	Hydrogenase isoenzymes formation protein hypE		Temporarily Up Regulated
ubiH	947388	2-octaprenyl-6-methoxyphenol hydroxylase		Down Regulated
ybbO	945337	Uncharacterized oxidoreductase ybbO	[]	Down Regulated
fhiA	947181	Formate hydrogenlyase transcriptional activator		Up Regulated
thiL	947387	Thiamine-monophosphate kinase		Down Regulated
lyxK	948101	L-xylulose/3-keto-L-gulonate kinase		Ambiguous/Unsorted
sapF	945335	Peptide transport system ATP-binding protein sapF		Down Regulated
ppa	948748	Inorganic pyrophosphatase		Down Regulated
allR	945333	HTH-type transcriptional repressor allR		Up Regulated
ygfZ	947384	tRNA-modifying protein ygfZ		Temporarily Down Regulated
seiB	948103	Selenocysteine-specific elongation factor		Down Regulated
yihW	948381	Uncharacterized HTH-type transcriptional regulator yihW	['Transcription', 'RNA related', 'Type of regulation', 'Genetic unit regulated', 'transcription', 'regulation of transcription DNA dependent']	Temporarily Up Regulated
ydeN	945957	Uncharacterized sulfatase ydeN	['Signal transduction mechanisms', 'Metabolism of other compounds']	Temporarily Up Regulated
cueR	945332	HTH-type transcriptional regulator cueR		Up Regulated
aegA	947383	Protein aegA		Temporarily Up Regulated
fdoH	948395	Formate dehydrogenase-O iron-sulfur subunit		Down Regulated
dusA	948558	tRNA-dihydrouridine synthase A		Down Regulated
csrA	947176	Carbon storage regulator		Up Regulated
gorA	948556	Quinone oxidoreductase		Temporarily Up Regulated
dnaB	948555	Replicative DNA helicase		Down Regulated
rhaT	948398	L-rhamnose-proton symporter		Up Regulated
mppA	945951	Periplasmic murein peptide-binding protein		Up Regulated
allA	945141	Uridoglycolate hydrolase		Up Regulated
ThiM	945142	Hydroxyethylthiazole kinase		Temporarily Down Regulated
dinF	948554	DNA-damage-inducible protein F		Ambiguous/Unsorted
yibJ	948553	UPF00337 protein yibJ		Temporarily Up Regulated
mtlA	948118	PTS system mannitol-specific EIIICBA component		Temporarily Up Regulated
mtlR	948116	Mannitol operon repressor		Ambiguous/Unsorted
cvdA	945341	Cytochrome d ubiquinol oxidase subunit 1		Up Regulated
mpl	948752	UDP-N-acetyl muramate-L-alanyl-gamma-D-glutamyl-meso-diaminopimelate ligase		Down Regulated
yibK	948119	Uncharacterized tRNA/tRNA methyltransferase yibK		Temporarily Down Regulated
yibH	948110	Inner membrane protein yibH		Up Regulated

zitB	945348	Zinc transporter zitB		Ambiguous/Unsorted	
yceB	947377	Uncharacterized lipoprotein yceB	['electron transport']	Down Regulated	
betB	947376	Betaine aldehyde dehydrogenase		Down Regulated	
ydhV	948756	Uncharacterized protein ydhV	['Central intermediary metabolism']	Up Regulated	
cydB	945347	Cytochrome d ubiquinol oxidase subunit 2		Ambiguous/Unsorted	
fbp	948753	Fructose-1,6-bisphosphatase class 1		Ambiguous/Unsorted	
ygfF	947373	Uncharacterized oxidoreductase ygfF	['tricarboxylic acid cycle']	Ambiguous/Unsorted	
lysS	947372	Lysyl-tRNA synthetase; Lysyl-tRNA synthetase, heat inducible		Down Regulated	
yibF	948113	Uncharacterized GST-like protein yibF	[]	Temporally Down Regulated	
yddA	945945	Inner membrane ABC transporter ATP-binding protein yddA		Up Regulated	
yibJ	948112	b3595; ECDH10B_3776; Z5017		Up Regulated	
alkA	947371	DNA-3-methyladenine glycosylase 2		Temporally Down Regulated	
yobB	948329	Uncharacterized protein yobB	['Replication recombination and repair']	Up Regulated	
rluA	946262	Ribosomal large subunit pseudouridine synthase A; Pseudouridine synthase		Ambiguous/Unsorted	
ygaH	945111	Uncharacterized protein ygaH	['Transcription', ' RNA related', ' Type of regulation', ' Protection', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated	
fre	948325	NAD(P)H-flavin reductase		Down Regulated	
fadA	948324	3-ketoacyl-CoA thiolase		Up Regulated	
ubiD	948326	3-octaprenyl-4-hydroxybenzoate carboxy-lyase		Ambiguous/Unsorted	
tatA	948321	Sec-independent protein translocase protein tatA		Down Regulated	
ysgA	948320	Putative carboxymethylenebutenolidase		Down Regulated	
patA	947120	Putrescine aminotransferase		Up Regulated	
torA	946267	Trimethylamine-N-oxide reductase 1		Up Regulated	
apt	945113	Adenine phosphoribosyltransferase		Down Regulated	
metE	948323	5-methyltetrahydropteroylglutamate--homocysteine methyltransferase		Ambiguous/Unsorted	
acrA	945112	Acriflavine resistance protein A		Down Regulated	
ybbP	945118	Uncharacterized ABC transporter permease ybbP		Temporally Down Regulated	
pyrF	947121	Orotidine 5'-phosphate decarboxylase		Down Regulated	
rhsD	945116	Protein rhsD		Up Regulated	
yigH	948769	UPF0076 protein yigH		Up Regulated	
secB	948123	Protein-export protein secB		Down Regulated	
trpD	945109	Anthranilate synthase component II		Down Regulated	
gpsA	948125	Glycerol-3-phosphate dehydrogenase [NAD(P)+]		Down Regulated	
moaE	945399	Molybdopterin-converting factor subunit 2		Temporally Up Regulated	
pyrB	948767	Aspartate carbamoyltransferase catalytic chain; Aspartate carbamoyltransferase		Down Regulated	
rhsA	948120	Protein rhsA		Up Regulated	
pepB	948766	Peptidase B		Down Regulated	
treR	948760	HTH-type transcriptional regulator treR		Ambiguous/Unsorted	
ybhK	945390	UPF0052 protein ybhK		Temporally Down Regulated	
ycfD	945391	Uncharacterized protein ycfD	[]	Up Regulated	
cysE	948126	Serine acetyltransferase		Down Regulated	
yibQ	948128	Uncharacterized protein yibQ	['proteolysis']	Temporally Down Regulated	
ybbN	947119	Uncharacterized protein ybbN	['Nucleotide transport and metabolism']	Down Regulated	
pepQ	948335	Xaa-Pro dipeptidase		Down Regulated	
ynjH	946279	Uncharacterized protein ynjH	['Amino acid transport and metabolism']	Up Regulated	
ybbJ	945126	Inner membrane protein ybbJ		Temporally Up Regulated	
ompW	945128	Outer membrane protein W		Temporally Up Regulated	
govT	947390	Aminomethyltransferase		Down Regulated	
rfaF	948135	ADP-heptose-LPS heptosyltransferase 2		Down Regulated	
govP	947394	Glycine dehydrogenase [decarboxylating]		Down Regulated	
rfaC	948136	Lipopolysaccharide heptosyltransferase 1		Down Regulated	
ypdB	947395	Uncharacterized response regulatory protein ypdB	[]	Temporally Up Regulated	
rfaD	948134	ADP-L-glycero-D-manno-heptose-6-epimerase		Down Regulated	
gcvH	947393	Glycine cleavage system H protein		Down Regulated	
yibN	948131	Uncharacterized protein yibN	[]	Down Regulated	
grxC	948132	Glutaredoxin-3		Down Regulated	
argL	948774	Ornithine carbamoyltransferase chain I; Ornithine carbamoyltransferase		Temporally Down Regulated	
rrAB	948773	Uncharacterized protein yigD		Up Regulated	
yigM	948772	Uncharacterized N-acetyltransferase yigM	[]	Temporally Up Regulated	
tdh	948139	L-threonine 3-dehydrogenase		Ambiguous/Unsorted	
kbl	948138	2-amino-3-ketobutyrate coenzyme A ligase		Temporally Up Regulated	
uvrD	948347	DNA helicase II		Down Regulated	
rdoA	948346	Protein rdoA		Down Regulated	
mobA	948349	Molybdopterin-guanine dinucleotide biosynthesis protein A		Temporally Up Regulated	
ybgC	948907	Acyl-CoA thioester hydrolase ybgC		Temporally Down Regulated	
yihD	948348	Protein yihD		Down Regulated	
yafD	946286	UPF0294 protein yafD		Up Regulated	
ygaW	947147	Uncharacterized protein ygaW	[]	Down Regulated	
sppA	946281	Protease 4		Down Regulated	
nupG	946282	Nucleoside permease nupG		Down Regulated	
ygaU	947144	Uncharacterized protein ygaU	[]	Ambiguous/Unsorted	
trnA	947143	tRNA (uracil-5')-methyltransferase		Temporally Down Regulated	
yjaG	948501	Uncharacterized protein yjaG	[]	Down Regulated	
nfi	948502	Endonuclease V		Down Regulated	
proW	947145	Glycine betaine/L-proline transport system permease protein proW		Ambiguous/Unsorted	

purH	948503	Bifunctional purine biosynthesis protein purH		Down Regulated	
ygiS	947140	Putative binding protein ygiS		Temporarily Down Regulated	
purD	948504	Phosphoribosylamine-glycine ligase		Down Regulated	
zraS	948506	Sensor protein; Sensor protein zraS		Ambiguous/Unsorted	
ybjE	947142	Uncharacterized protein ybjE	[' Building block biosynthesis', 'metabolic process']	Temporarily Down Regulated	
zraP	948507	Zinc resistance-associated protein		Temporarily Up Regulated	
holC	948787	DNA polymerase III subunit chi		Down Regulated	
yfcD	946783	Uncharacterized Nudix hydrolase yfcD	['tricarboxylic acid cycle', 'response to antibiotic']	Down Regulated	
yghG	945919	Uncharacterized protein yghG	['Replication recombination and repair', 'Carbon compound utilization', 'DNA recombination']	Up Regulated	
ycuU	949008	Uncharacterized protein ycuU	[]	Temporarily Up Regulated	
folX	946781	D-erythro-7,8-dihydroopterin triphosphate epimerase		Ambiguous/Unsorted	
rfe	948789	Undecaprenyl-phosphate alpha-N-acetylglucosaminyl 1-phosphate transferase		Temporarily Down Regulated	
rfaY	948145	Lipopolysaccharide core biosynthesis protein rfaY		Down Regulated	
yajC	945374	UPF0092 membrane protein yajC		Down Regulated	
rfaL	948148	O-antigen ligase		Down Regulated	
rpsL	949000	30S ribosomal protein S9		Down Regulated	
deoB	948910	Phosphopentomutase		Temporarily Up Regulated	
ybhA	945372	Phosphatase ybhA		Down Regulated	
yfcI	946787	Uncharacterized protein yfcI	['Amino acid transport and metabolism', ' Building block biosynthesis', 'amino acid metabolic process', 'aromatic amino acid family']	Up Regulated	
radA	948912	DNA repair protein radA		Temporarily Up Regulated	
mngR	945371	Mannosyl-D-glycerate transport/metabolism system repressor mngR		Ambiguous/Unsorted	
intB	948782	ECDH1OB_4464; ECIA139_4743; UTI89_C4878; b4271; ECED1_5125; EC55989_4829; ECUMN_4803		Temporarily Up Regulated	
nadR	948911	Transcriptional regulator nadR		Down Regulated	
valS	948785	Valyl-tRNA synthetase		Down Regulated	
serB	948913	Phosphoserine phosphatase		Temporarily Down Regulated	
yfcH	946784	Epimerase family protein yfcH		Up Regulated	
yeaG	946297	Uncharacterized protein yeaG	[]	Up Regulated	
YigA	948359	Uncharacterized protein yigA		Down Regulated	
recR	945100	Recombination protein recR		Down Regulated	
yihA	948358	Probable GTP-binding protein engB		Down Regulated	
yigB	948357	Uncharacterized protein yigB	[]	Down Regulated	
ygaV	947136	Probable HTH-type transcriptional regulator ygaV		Up Regulated	
tomB	945106	Uncharacterized protein ybaJ		Up Regulated	
metA	948513	Homoserine O-succinyltransferase		Temporarily Up Regulated	
yjaB	948514	Uncharacterized N-acetyltransferase yjaB	[]	Up Regulated	
dnaX	945105	DNA polymerase III subunit tau		Down Regulated	
polA	948356	DNA polymerase I		Down Regulated	
ftsK	945102	DNA translocase ftsK		Temporarily Down Regulated	
aceA	948517	Isocitrate lyase		Temporarily Up Regulated	
pagB	948518	Uncharacterized protein yjbD		Ambiguous/Unsorted	
yjbD	948518	Uncharacterized protein yjbD		Ambiguous/Unsorted	
xerC	948355	Tyrosine recombinase xerC		Down Regulated	
ybaB	945104	UPF0133 protein ybaB		Down Regulated	
asr	945103	Acid shock protein		Temporarily Up Regulated	
dsbA	948353	Thiol:disulfide interchange protein dsbA		Down Regulated	
yicC	948154	UPF0701 protein yicC		Down Regulated	
idnT	948798	Gnt-II system L-idonate transporter		Ambiguous/Unsorted	
purF	946794	Amidophosphoribosyltransferase		Down Regulated	
truA	946793	tRNA pseudouridine synthase A		Down Regulated	
yjaH	948508	Uncharacterized protein yjaH	['Cell wall membrane envelope biogenesis', 'lipopolysaccharide biosynthetic process']	Down Regulated	
pyrE	948157	Orotate phosphoribosyltransferase		Down Regulated	
ynaJ	945901	Uncharacterized protein ynaJ	['Replication recombination and repair', 'DNA recombination']	Temporarily Down Regulated	
bioC	945368	Biotin synthesis protein bioC		Down Regulated	
slmA	948158	HTH-type protein slmA		Temporarily Down Regulated	
uspE	945904	Universal stress protein E		Temporarily Up Regulated	
rph	948156	Ribonuclease PH		Temporarily Down Regulated	
folK	948792	2-amino-4-hydroxy-6-hydroxymethylidihydropteridine pyrophosphokinase		Down Regulated	
accD	946796	Acetyl-coenzyme A carboxylase carboxyl transferase subunit beta		Down Regulated	
ydaM	945909	Uncharacterized protein ydaM		Up Regulated	
uxuB	946795	D-mannonate oxidoreductase		Up Regulated	
ybhJ	945380	Uncharacterized protein ybhJ	['Energy production and conversion', 'Energy metabolism carbon', 'glycolysis', 'tricarboxylic acid cycle']	Up Regulated	
deoC	948902	Deoxyribose-phosphate aldolase		Down Regulated	
dedA	946798	Protein dedA		Down Regulated	
deoA	948901	Thymidine phosphorylase		Down Regulated	
tolQ	948900	Protein tolQ		Down Regulated	
pheT	945382	Phenylalanyl-tRNA synthetase beta chain		Down Regulated	
nuoG	946762	NADH-quinone oxidoreductase; NADH-quinone oxidoreductase subunit G		Down Regulated	
ydcD	946958	Uncharacterized protein ydcD	['Cell wall membrane envelope biogenesis']	Up Regulated	
CARA	949025	Carbamoyl-phosphate synthase small chain		Temporarily Up Regulated	
yacL	944809	UPF0231 protein yacL		Temporarily Up Regulated	
nuoA	946764	NADH-quinone oxidoreductase subunit; NADH-quinone oxidoreductase subunit A		Down Regulated	
yehU	949027	Inner membrane protein yehU		Ambiguous/Unsorted	
mutM	946765	Formamidopyrimidine-DNA glycosylase		Temporarily Up Regulated	
idi	949020	Isopentenyl-diphosphate Delta-isomerase		Up Regulated	

yfbS	946766	Uncharacterized transporter yfbS	[]	Temporarily Down Regulated
yfbU	946767	UPF0304 protein yfbU		Down Regulated
selD	946768	Selenide, water dikinase		Down Regulated
lrhA	946769	Probable HTH-type transcriptional regulator lrhA		Up Regulated
ftsL	944803	Cell division protein ftsL		Ambiguous/Unsorted
yicI	948169	Alpha-xylosidase		Temporarily Up Regulated
fruR	944804	Fructose repressor		Ambiguous/Unsorted
yfdC	944801	Inner membrane protein yfdC		Up Regulated
gltS	948166	Sodium/glutamate symport carrier protein		Ambiguous/Unsorted
ydfJ	944802	b4600; c1969: EcHS_A1633; Z2153; E2348C_1663; ECED1_1671; ECDH10B_1674; ECH74115_2159; EC55989_1684; ECS88_1623; EcE24377A_1752; EcSMS35_1621; ECED1_1674;	[]	Up Regulated
fkpB	944807	FKBP-type 16 kDa peptidyl-prolyl cis-trans isomerase		Down Regulated
nuoH	946761	NADH-quinone oxidoreductase subunit H		Down Regulated
recG	948162	ATP-dependent DNA helicase recG		Down Regulated
rpoZ	948160	DNA-directed RNA polymerase subunit omega		Temporarily Down Regulated
trmH	948161	tRNA guanosine-2'-O-methyltransferase		Temporarily Down Regulated
maeA	946031	NAD-dependent malic enzyme		Down Regulated
ydhF	946960	Oxidoreductase ydhF		Up Regulated
adhP	946036	Alcohol dehydrogenase, propanol-prefering		Temporarily Up Regulated
nuoC	946759	NADH-quinone oxidoreductase subunit C/D		Down Regulated
ackA	946775	Acetate kinase		Down Regulated
yfbV	946774	UPF0208 membrane protein yfbV		Up Regulated
ymdA	949012	Uncharacterized protein ymdA	[]	Down Regulated
yfbT	946777	Phosphatase yfbT		Down Regulated
pta	946778	Phosphate acetyltransferase		Down Regulated
yicN	948173	Uncharacterized protein yicN	["Carbon compound utilization", "regulation of transcription"]	Temporarily Down Regulated
yicL	948176	Uncharacterized inner membrane transporter yicL	["regulation of cell shape"]	Ambiguous/Unsorted
nlpA	948175	Lipoprotein 28		Down Regulated
ygfT	949018	Uncharacterized protein ygfT	["electron transport"]	Temporarily Up Regulated
yicH	948171	Uncharacterized protein yicH	["Energy production and conversion"]	Up Regulated
ispA	944800	Lipoprotein signal peptidase		Down Regulated
yfgD	946974	Uncharacterized protein yfgD	[]	Temporarily Down Regulated
rhsE	946026	ECDH10B_1586; EC55989_0238; b1456		Ambiguous/Unsorted
ymbA	946972	Uncharacterized lipoprotein ymbA	["Amino acid transport and metabolism"]	Temporarily Up Regulated
uraA	946978	Uracil permease		Down Regulated
galS	949043	HTH-type transcriptional regulator galS		Temporarily Up Regulated
nuoE	946746	NADH-quinone oxidoreductase subunit E		Down Regulated
yeiB	949044	Uncharacterized protein yeiB	["two component signal transduction system phosphorelay"]	Down Regulated
yeiG	949045	S-formylglutathione hydrolase yeiG		Down Regulated
artQ	949046	Arginine transport system permease protein artQ		Down Regulated
difp	949047	Coenzyme A biosynthesis bifunctional protein coaBC		Down Regulated
menE	946741	2-succinylbenzoate-CoA ligase		Temporarily Up Regulated
gltI	946938	Glutamate/aspartate periplasmic-binding protein		Temporarily Up Regulated
ftsQ	944823	Cell division protein ftsQ		Down Regulated
yadG	944833	Uncharacterized ABC transporter ATP-binding protein yadG		Down Regulated
can	944832	Carbonic anhydrase 2		Down Regulated
gnsb	946054	Protein gnsB		Down Regulated
secM	944831	Secretion monitor		Down Regulated
gcd	944830	Quinoprotein glucose dehydrogenase		Down Regulated
tmcA	946053	Uncharacterized protein ypfI		Ambiguous/Unsorted
ivbL	948181	IlvBN operon leader peptide		Temporarily Up Regulated
nuoB	946738	NADH-quinone oxidoreductase subunit B		Down Regulated
rpmB	946941	50S ribosomal protein L28		Down Regulated
yfaZ	946739	Uncharacterized protein yfaZ	[]	Temporarily Up Regulated
nuoI	946757	NADH-quinone oxidoreductase subunit I		Down Regulated
ubiX	949033	3-octaprenyl-4-hydroxybenzoate carboxy-lyase		Down Regulated
purE	949031	Phosphoribosylaminoimidazole carboxylase catalytic subunit		Down Regulated
yfcE	946755	Phosphodiesterase yfcE		Down Regulated
nuoJ	946756	NADH-quinone oxidoreductase subunit J		Down Regulated
nuoF	946753	NADH-quinone oxidoreductase subunit F		Down Regulated
yeiA	949037	Uncharacterized protein yeiA	["Nucleotide transport and metabolism"]	Up Regulated
ppiB	949038	Peptidyl-prolyl cis-trans isomerase B; Peptidyl-prolyl cis-trans isomerase		Down Regulated
nadE	946946	NH(3)-dependent NAD(+) synthetase		Down Regulated
thyA	949035	Thymidylate synthase		Down Regulated
murD	944818	UDP-N-acetyl muramoylalanine-D-glutamate ligase		Down Regulated
surA	944812	Chaperone surA		Down Regulated
murF	944813	UDP-N-acetyl muramoyl-tripeptide-D-alanyl-D-alanine ligase		Down Regulated
mraY	944814	Phospho-N-acetyl muramoyl-pentapeptide-transferase		Down Regulated
wzzE	944815	Lipopolysaccharide biosynthesis protein wzzE		Down Regulated
uidC	944820	Membrane-associated protein uidC		Up Regulated
ddpB	946044	Probable D,D-dipeptide transport system permease protein ddpB		Down Regulated
secA	944821	Protein translocase subunit secA		Down Regulated
ibpB	948192	Small heat shock protein ibpB		Up Regulated
ydeE	948193	Putative transport protein ydeE		Up Regulated
ypfJ	946956	Uncharacterized protein ypfJ	[]	Temporarily Up Regulated

bamC	946954	Lipoprotein 34		Down Regulated	
gcvR	946950	Glycine cleavage system transcriptional repressor		Temporarily Up Regulated	
yebQ	946048	Uncharacterized transporter yebQ	[]	Temporarily Down Regulated	
yfcN	944847	UPF0115 protein yfcN		Temporarily Down Regulated	
ybgJ	945311	Uncharacterized protein ybgJ	[]	Down Regulated	
sucC	945312	Succinyl-CoA ligase [ADP-forming] subunit beta		Down Regulated	
yadB	944846	Glutamyl-Q tRNA(Asp) synthetase: Insertion element IS150 uncharacterized 14 kDa protein		Ambiguous/Unsorted	
hrpB	944845	ATP-dependent RNA helicase hrpB		Temporarily Down Regulated	
ybgK	945317	Uncharacterized protein ybgK	[]	Down Regulated	
lpxA	944849	Acyl-[acyl-carrier-protein]-UDP-N-acetylglucosamine O-acyltransferase		Down Regulated	
yjgR	948978	Uncharacterized protein yjgR	[]	Temporarily Up Regulated	
rfdD	948977	UDP-N-acetyl-D-mannosamine dehydrogenase		Down Regulated	
glpQ	946725	Glycerophosphoryl diester phosphodiesterase		Temporarily Up Regulated	
pinR	948973	Putative DNA-invertase from lambdoid prophage Rac		Up Regulated	
coaE	949060	Dephospha-CoA kinase		Up Regulated	
cicA	946715	H(+)/Cl(-) exchange transporter clcA		Down Regulated	
dksA	944850	DnaK suppressor protein		Temporarily Up Regulated	
sucB	945307	Dihydropolylysine-residue succinyltransferase component of 2-oxoglutarate dehydrogenase complex		Down Regulated	
hisJ	945309	Histidine-binding periplasmic protein		Temporarily Down Regulated	
lpd	944854	Dihydrolipoyl dehydrogenase		Down Regulated	
HtpX	946076	Probable protease htpX		Ambiguous/Unsorted	
ydhC	946077	Inner membrane transport protein ydhC		Down Regulated	
rmhB	944852	Ribonuclease HII		Down Regulated	
aceE	944834	Pyruvate dehydrogenase E1 component		Down Regulated	
lpfG	945324	Lipopolyssaccharide export system permease protein lpfG		Ambiguous/Unsorted	
sdhD	945322	Succinate dehydrogenase hydrophobic membrane anchor subunit		Down Regulated	
panB	944839	3-methyl-2-oxobutanate hydroxymethyltransferase		Down Regulated	
tolR	945328	Protein tolR		Down Regulated	
yjhQ	949059	Uncharacterized N-acetyltransferase yjhQ	["Translation ribosomal structure and biogenesis", "translation"]	Up Regulated	
csgA	949055	Major curlin subunit		Up Regulated	
glbC	946735	Anaerobic glycerol-3-phosphate dehydrogenase subunit C		Up Regulated	
trxB	949054	Thioredoxin reductase		Down Regulated	
menC	946734	o-succinylbenzoate synthase		Down Regulated	
lpxH	949053	UDP-2,3-diacylglycosamine hydrolase		Down Regulated	
lrp	949051	Leucine-responsive regulatory protein		Down Regulated	
cvdD	949052	ATP-binding/permease protein cvdD		Down Regulated	
rleE	945701	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase E		Down Regulated	
hipA	946064	Protein hipA		Temporarily Up Regulated	
ygbL	947197	Putative aldolase class 2 protein ygbL		Temporarily Up Regulated	
manA	944840	Mannose-6-phosphate isomerase		Temporarily Down Regulated	
ygbL	945318	UPF0271 protein ygbL		Down Regulated	
pphB	947196	Serine/threonine-protein phosphatase 2		Temporarily Up Regulated	
ygbK	947199	Uncharacterized protein ygbK	["Carbohydrate transport and metabolism"]	Up Regulated	
ydeJ	946067	Protein ydeJ		Up Regulated	
yacH	944868	Uncharacterized protein yacH	["Signal transduction mechanisms", "Type of regulation", "signal transduction"]	Up Regulated	
argP	944867	Chromosome initiation inhibitor		Ambiguous/Unsorted	
caIB	948997	Crotonobetainyl-CoA:carnitine CoA-transferase		Up Regulated	
eco	946700	Ecotin		Down Regulated	
symE	949088	Endoribonuclease symE		Up Regulated	
ymdB	946987	UPF0189 protein ymdB		Ambiguous/Unsorted	
bamB	946982	Lipoprotein yfgL		Down Regulated	
der	946983	GTP-binding protein engA		Down Regulated	
yfgJ	946984	Uncharacterized protein yfgJ	[" Type of regulation"]	Ambiguous/Unsorted	
cdsA	944876	Phosphatidate cytidylyltransferase		Temporarily Down Regulated	
dnaE	944877	DNA polymerase III subunit alpha		Down Regulated	
yfgG	946980	Uncharacterized protein yfgG	["Nucleotide transport and metabolism"]	Up Regulated	
yfgM	946981	UPF0070 protein yfgM		Down Regulated	
yaeR	944875	Uncharacterized protein yaeR	[]	Ambiguous/Unsorted	
ginH	944872	Glutamine-binding periplasmic protein		Down Regulated	
flhE	946094	Flagellar protein flhE		Down Regulated	
prc	946096	Tail-specific protease		Down Regulated	
bamA	944870	Outer membrane protein assembly factor yaeT		Down Regulated	
rseP	944871	Regulator of sigma E protease		Down Regulated	
ynfN	946097	Uncharacterized protein ynfN	[]	Up Regulated	
osmE	945305	Osmotically-inducible lipoprotein E		Temporarily Up Regulated	
sucA	945303	2-oxoglutarate dehydrogenase E1 component		Down Regulated	
ulaF	948711	L-ribulose-5-phosphate 4-epimerase ulaF		Up Regulated	
aer	945301	Aerotaxis receptor		Up Regulated	
erpA	944857	Iron-sulfur cluster insertion protein erpA		Up Regulated	
yjfY	948713	Uncharacterized protein yjfY	[]	Temporarily Up Regulated	
kdpE	945302	KDP operon transcriptional regulatory protein kdpE		Temporarily Up Regulated	
yciM	944858	Uncharacterized protein yciM	[]	Ambiguous/Unsorted	
glbA	946713	Anaerobic glycerol-3-phosphate dehydrogenase subunit A		Up Regulated	
menF	946712	Menaquinone-specific isochorismate synthase		Ambiguous/Unsorted	

sbcC	949076	Nuclease sbcCD subunit C		Down Regulated	
apbE	946711	Thiamine biosynthesis lipoprotein apbE		Temporarily Down Regulated	
lolA	948989	Outer-membrane lipoprotein carrier protein		Down Regulated	
betA	945716	Choline dehydrogenase		Down Regulated	
xdhD	949079	Probable hypoxanthine oxidase xdhD		Up Regulated	
flgH	946996	Flagellar L-ring protein		Down Regulated	
sseA	946993	3-mercaptopryuvate sulfurtransferase		Temporarily Up Regulated	
glpT	946704	Glycerol-3-phosphate transporter		Up Regulated	
sseB	946994	Protein sseB		Down Regulated	
ulaR	948706	HTH-type transcriptional regulator ulaR		Up Regulated	
rodZ	946992	Cytoskeleton protein rodZ		Temporarily Down Regulated	
acnB	944864	Aconitase hydratase 2		Down Regulated	
yifP	948707	Esterase yifP		Ambiguous/Unsorted	
yifN	948709	Uncharacterized protein yifN	["Building block biosynthesis", "ion transport"]	Up Regulated	
tsf	944866	Elongation factor Ts		Down Regulated	
pinQ	946088	Putative DNA-invertase from lambdoid prophage Qin		Up Regulated	
yebR	946086	UPF0067 protein yebR		Down Regulated	
skp	944861	Chaperone protein skp		Down Regulated	
dcp	946084	Peptidyl-dipeptidase dcp		Ambiguous/Unsorted	
fabZ	944888	(3R)-hydroxymyristoyl-[acyl-carrier-protein] dehydratase		Down Regulated	
yhfY	947888	Uncharacterized protein yhfY	["Replication recombination and repair", "Carbon compound utilization"]	Temporarily Up Regulated	
yhfX	947889	Uncharacterized protein yhfX	["Replication recombination and repair", "Carbon compound utilization"]	Up Regulated	
lpxD	944882	UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferase		Down Regulated	
map	947882	Methionine aminopeptidase		Ambiguous/Unsorted	
DHAR	945743	PTS-dependent dihydroxyacetone kinase operon regulatory protein		Up Regulated	
yjiX	949090	Uncharacterized protein yjiX	["Signal transduction mechanisms", "Adaptation to stress", "response to stress"]	Down Regulated	
cysG	947880	Siroheme synthase		Down Regulated	
umuD	945746	Protein umuD		Up Regulated	
minE	945740	Cell division topological specificity factor		Down Regulated	
kdsB	945539	3-deoxy-manno-octulosonate cytidyltransferase		Down Regulated	
folM	949096	Dihydrofolate reductase folM		Temporarily Up Regulated	
hupB	949095	DNA-binding protein HU-beta		Ambiguous/Unsorted	
rbfA	947685	Ribosome-binding factor A		Down Regulated	
ycbC	945546	Uncharacterized protein ycbC	["regulation of cell shape", "peptidoglycan biosynthetic process"]	Ambiguous/Unsorted	
infB	947684	Translation initiation factor IF-2		Down Regulated	
arnA	947683	Bifunctional polymyxin resistance protein arnA		Up Regulated	
mukF	945548	Chromosome partition protein mukF		Down Regulated	
nusA	947682	Transcription elongation protein nusA		Down Regulated	
smtA	945547	Protein smtA		Down Regulated	
uxaB	945542	Altronate oxidoreductase		Up Regulated	
ycbB	945541	Uncharacterized protein ycbB	["DNA replication"]	Temporarily Up Regulated	
rimP	947680	b3170		Down Regulated	
yegX	945543	Uncharacterized protein yegX	["translation"]	Up Regulated	
nuoL	945540	NADH-quinone oxidoreductase subunit L		Down Regulated	
rlmE	947689	b3179		Down Regulated	
yhbY	947688	RNA-binding protein yhbY		Down Regulated	
truB	947687	tRNA pseudouridine synthase B		Down Regulated	
sufD	944878	Protein sufD		Up Regulated	
rpsO	947686	30S ribosomal protein S15		Down Regulated	
PabA	947873	Para-aminobenzoate synthase glutamine amidotransferase component II		Ambiguous/Unsorted	
metQ	944893	D-methionine-binding lipoprotein metQ		Down Regulated	
rpsB	947874	30S ribosomal protein S2		Down Regulated	
accA	944895	Acetyl-coenzyme A carboxylase carboxyl transferase subunit alpha		Down Regulated	
yejH	945529	Uncharacterized protein yejH	["Building block biosynthesis", "amino acid biosynthetic process"]	Temporarily Down Regulated	
serC	945527	Phosphoserine aminotransferase		Down Regulated	
pnp	947672	Polyribonucleotide nucleotidyltransferase		Down Regulated	
yhbQ	947671	UPF0213 protein yhbQ		Up Regulated	
deaD	947674	Cold-shock DEAD box protein A		Down Regulated	
cnk	945535	Cytidylate kinase		Temporarily Down Regulated	
nlpI	947673	Lipoprotein nlpI		Temporarily Down Regulated	
inhB	945533	Integration host factor subunit beta		Down Regulated	
ycaI	945531	Uncharacterized protein ycaI	[]	Up Regulated	
rssA	945725	NTE family protein rssA		Temporarily Down Regulated	
mtr	947675	Tryptophan-specific transport protein		Temporarily Up Regulated	
yhbW	947677	Uncharacterized protein yhbW	[]	Down Regulated	
ymgE	945760	UPF0410 protein ymgE		Up Regulated	
clpA	945764	ATP-dependent Clp protease ATP-binding subunit clpA		Temporarily Up Regulated	
pth	945765	Peptidyl-tRNA hydrolase		Ambiguous/Unsorted	
fabD	945766	Malonyl CoA-acyl carrier protein transacylase		Down Regulated	
ycgV	945767	Uncharacterized protein ycgV	["Amino acid transport and metabolism", "Building block biosynthesis"]	Up Regulated	
trpB	945768	Tryptophan synthase beta chain		Down Regulated	
rimL	945564	Ribosomal RNA large subunit methyltransferase L		Down Regulated	
gst	945758	Glutathione S-transferase		Up Regulated	
yobX	945563	Uncharacterized protein yobX	[]	Temporarily Down Regulated	

rmf	945567	Ribosome modulation factor		Temporarily Up Regulated
gph	947895	Phosphoglycolate phosphatase		Down Regulated
rpe	947896	Ribulose-phosphate 3-epimerase		Down Regulated
yhfZ	947897	Uncharacterized protein yhfZ	['Replication recombination and repair', 'Carbon compound utilization', 'DNA replication']	Up Regulated
dadA	945752	D-amino acid dehydrogenase small subunit		Temporarily Down Regulated
sufB	945753	Protein sufB		Temporarily Up Regulated
mukB	945549	Chromosome partition protein mukB		Down Regulated
ldcA	945756	Muramoyltetrapeptide carboxypeptidase		Temporarily Down Regulated
treA	945757	Periplasmic trehalase; Putative periplasmic trehalase		Up Regulated
dam	947893	DNA adenine methylase		Down Regulated
trpS	947894	Tryptophanyl-tRNA synthetase		Down Regulated
ompF	945554	Outer membrane protein F		Down Regulated
dhaM	945749	PTS-dependent dihydroxyacetone kinase, phosphotransferase subunit dhaM		Down Regulated
dhaL	945748	PTS-dependent dihydroxyacetone kinase, ADP-binding subunit dhaL		Down Regulated
glmM	947692	Phosphoglucomamine mutase		Down Regulated
aspC	945553	Aspartate aminotransferase		Down Regulated
folP	947691	Dihydropteroate synthase		Down Regulated
ycbW	945552	Uncharacterized protein ycbW	['Nucleotide transport and metabolism', 'Building block biosynthesis']	Ambiguous/Unsorted
dhaK	945747	PTS-dependent dihydroxyacetone kinase, dihydroxyacetone-binding subunit dhaK		Down Regulated
dacB	947693	D-alanyl-D-alanine carboxypeptidase dacB		Down Regulated
ybaN	945558	Inner membrane protein ybaN		Down Regulated
greA	947696	Transcription elongation factor; Transcription elongation factor greA		Down Regulated
yhdJ	947695	Uncharacterized adenine-specific methylase yhdJ		Up Regulated
yhbE	947699	Uncharacterized inner membrane transporter yhbE	[' Type of regulation']	Down Regulated
ycbL	945551	Uncharacterized protein ycbL	[]	Temporarily Down Regulated
mukE	945550	Chromosome partition protein mukE		Down Regulated
pyrC	945787	Dihydroorotate		Down Regulated
yjiM	945789	Uncharacterized protein yjiM	[]	Up Regulated
ychA	945784	Protein sirB1		Down Regulated
yeoO	946506	Uncharacterized transporter yeoO	[]	Temporarily Up Regulated
hisF	946516	Imidazole glycerol phosphate synthase subunit hisF		Down Regulated
agaA	947646	ECED1_3799; EC55989_3555; E2348C_3421; ECUMN_3619; ECIAI1_3285; ECDH10B_3308; ECIAI39_3636; b3135; ECS88_3523		Ambiguous/Unsorted
garP	947642	Probable galactarate transporter		Temporarily Up Regulated
yeoR	946512	Inner membrane protein yeoR		Down Regulated
dmsC	945502	Anaerobic dimethyl sulfoxide reductase chain C		Up Regulated
rihA	945503	Pyrimidine-specific ribonucleoside hydrolase rihA		Down Regulated
cydC	945504	ATP-binding/permease protein cydC		Temporarily Up Regulated
grxB	946926	Glutaredoxin-2		Temporarily Up Regulated
yfiH	947089	UPF0124 protein yfiH		Down Regulated
hemA	945777	Glutamyl-tRNA reductase		Temporarily Down Regulated
ycgM	946115	Uncharacterized protein ycgM	[]	Ambiguous/Unsorted
aroF	947084	Phospho-2-dehydro-3-deoxyheptonate aldolase, Tyr-sensitive		Down Regulated
lolB	945775	Outer-membrane lipoprotein lolB		Down Regulated
ispE	945774	4-diphosphocytidyl-2-C-methyl-D-erythritol kinase		Down Regulated
bamD	947086	UPF0169 lipoprotein yfiO		Down Regulated
agp	945773	Glucose-1-phosphatase		Up Regulated
prs	945772	Ribose-phosphate pyrophosphokinase		Down Regulated
rluD	947087	Pseudouridine synthase; Ribosomal large subunit pseudouridine synthase D		Ambiguous/Unsorted
cysB	945771	HTH-type transcriptional regulator cysB		Ambiguous/Unsorted
ychM	945770	Putative sulfate transporter ychM		Ambiguous/Unsorted
agaR	947636	Putative aga operon transcriptional repressor		Up Regulated
yhaV	947638	Uncharacterized protein yhaV		Up Regulated
cbl	946502	HTH-type transcriptional regulator cbl		Down Regulated
nac	946501	Nitrogen assimilation regulatory protein nac		Down Regulated
efeB	946500	Peroxidase ycdB		Down Regulated
pheA	947081	P-protein		Down Regulated
pheL	947080	Phe operon leader peptide		Up Regulated
yfeZ	946918	Inner membrane protein yfeZ		Down Regulated
uxuA	947082	Mannanose dehydratase		Temporarily Up Regulated
ypeA	946917	Acetyltransferase ypeA		Down Regulated
bisC	946915	Biotin sulfoxide reductase		Down Regulated
yfeX	946913	Uncharacterized protein yfeX	[' Building block biosynthesis']	Temporarily Down Regulated
pflA	945517	Pyruvate formate-lyase 1-activating enzyme		Temporarily Up Regulated
ypjD	947098	Inner membrane protein ypjD		Down Regulated
trpC	945519	Tryptophan biosynthesis protein trpCF		Down Regulated
rspB	946127	Starvation-sensing protein rspB		Up Regulated
rplS	947096	50S ribosomal protein L19		Down Regulated
sufC	946128	Probable ATP-dependent transporter sufC		Temporarily Up Regulated
trmD	947099	tRNA (guanine-N(1))-methyltransferase		Down Regulated
ydhK	946528	Uncharacterized transporter ydhK	[' Type of regulation']	Temporarily Down Regulated
sbcB	946529	Exodeoxyribonuclease I		Temporarily Down Regulated
hisD	946531	Histidinol dehydrogenase		Temporarily Up Regulated
yraL	947664	UPF0011 protein yraL		Ambiguous/Unsorted
rsmL	947664	UPF0011 protein yraL		Ambiguous/Unsorted

yadE	946536	Uncharacterized protein yadE	['Cell wall membrane envelope biogenesis', 'lipopolysaccharide biosynthetic process']	Up Regulated	
yroQ	947668	UPF0718 protein yroQ	[]	Up Regulated	
yajO	946903	Uncharacterized oxidoreductase yajO	[]	Temporally Up Regulated	
ycak	945520	Uncharacterized NAD(P)H oxidoreductase ycaK	['amino acid transport']	Up Regulated	
yajG	945521	Uncharacterized lipoprotein yajG	['Posttranslational modification protein turnover chaperones', 'Electrochemical potential driven transporters']	Down Regulated	
yroN	947662	UPF0102 protein yroN	[]	Down Regulated	
yroM	947663	Uncharacterized protein yroM	['DNA replication']	Down Regulated	
lyv	946530	Inhibitor of vertebrate lysozyme	[]	Temporally Up Regulated	
ycap	945525	UPF0702 transmembrane protein ycaP	[]	Ambiguous/Unsorted	
hcr	947660	NADH oxidoreductase hcr	[]	Up Regulated	
diaA	947661	DnaA initiator-associating protein diaA	[]	Down Regulated	
rscC	946137	Electron transport complex protein rnfC	[]	Down Regulated	
rhmT	945796	Inner membrane transport protein yfaV	[]	Ambiguous/Unsorted	
yfaV	945796	Inner membrane transport protein yfaV	[]	Ambiguous/Unsorted	
yafS	944903	Uncharacterized protein yafS	['DNA replication']	Down Regulated	
serS	945506	Seryl-tRNA synthetase	[]	Temporally Down Regulated	
rarA	945505	Replication-associated recombination protein A	[]	Down Regulated	
ychN	945794	Protein ychN	[]	Temporally Up Regulated	
dkgB	944901	2,5-diketo-D-gluconic acid reductase B	[]	Up Regulated	
yafJ	944906	Putative glutamine amidotransferase yafJ	[]	Ambiguous/Unsorted	
queA	944905	S-adenosylmethionine:tRNA ribosyltransferase-isomerase	[]	Down Regulated	
cobU	946519	Bifunctional adenosylcobalamin biosynthesis protein cobU	[]	Up Regulated	
yndD	946133	Uncharacterized protein yndD	['Energy production and conversion', 'Electrochemical potential driven transporters', 'response to stress']	Up Regulated	
rscD	946134	Electron transport complex protein rnfD	[]	Down Regulated	
chaB	945792	Cation transport regulator chaB	[]	Temporally Up Regulated	
chaA	945790	Calcium/proton antiporter	[]	Down Regulated	
poxB	946132	Pyruvate dehydrogenase [cytochrome]	[]	Up Regulated	
mreC	947655	Rod shape-determining protein mreC	[]	Down Regulated	
hisA	946521	1-(5-phosphoribosyl)-5-[(5-phosphoribosylamino)methylideneamino] imidazole-4-carboxamide isomerase	[]	Down Regulated	
cobS	946520	Cobalamin synthase	[]	Temporally Up Regulated	
yroJ	947656	Uncharacterized outer membrane usher protein yraJ	['Amino acid transport and metabolism', 'Coenzyme transport and metabolism', 'Central intermediary metabolism', 'translation']	Up Regulated	
yeoE	946526	UPF0394 inner membrane protein yeeE	[]	Down Regulated	
yroH	947658	Uncharacterized fimbrial-like protein yraH	[]	Up Regulated	
hsuJ	946525	Heat shock protein hsuJ	[]	Temporally Up Regulated	
yafK	944910	Uncharacterized protein yafK	[]	Temporally Down Regulated	
ycaD	945515	Uncharacterized MFS-type transporter ycaD	['translation']	Temporally Up Regulated	
yhgE	947651	Uncharacterized protein yhgE	[]	Temporally Up Regulated	
focA	945513	Type-1 fimbrial protein, C chain; Probable formate transporter 1	[]	Temporally Down Regulated	
hisC	946551	Histidinol-phosphate aminotransferase	[]	Down Regulated	
hisB	946552	Histidine biosynthesis bifunctional protein hisB	[]	Down Regulated	
mutL	948691	DNA mismatch repair protein mutL	[]	Temporally Down Regulated	
yieT	948696	Uncharacterized protein yieT	['Posttranslational modification protein turnover chaperones', 'purine nucleotide biosynthetic process']	Temporally Down Regulated	
rplJ	948490	50S ribosomal protein L10	[]	Down Regulated	
hfIK	948698	Protein hfIK	[]	Down Regulated	
yifC	948699	Uncharacterized protein yifC	['electron transport', 'metabolic process']	Up Regulated	
exuT	947601	Hexuronate transporter	[]	Up Regulated	
rplE	947800	50S ribosomal protein L5	[]	Down Regulated	
rpsN	947801	30S ribosomal protein S14	[]	Down Regulated	
rpsH	947802	30S ribosomal protein S8	[]	Down Regulated	
umuC	946359	Protein umuC	[]	Up Regulated	
rplF	947803	50S ribosomal protein L6	[]	Down Regulated	
ptrB	946358	Protease 2	[]	Ambiguous/Unsorted	
yoaB	946357	UPF0076 protein yoaB	[]	Down Regulated	
pphA	946356	Serine/threonine-protein phosphatase 1	[]	Up Regulated	
cdh	948410	CDP-diacylglycerol pyrophosphatase	[]	Temporally Down Regulated	
pdxJ	947039	Pyridoxine 5'-phosphate synthase	[]	Temporally Down Regulated	
pdxA	944919	4-hydroxythreonine-4-phosphate dehydrogenase	[]	Down Regulated	
cyoD	944918	Cytochrome o ubiquinol oxidase protein cyoD	[]	Down Regulated	
yebW	946354	Uncharacterized protein yebW	[]	Up Regulated	
queC	947034	Queuosine biosynthesis protein queC	[]	Up Regulated	
pfkA	948412	6-phosphofructokinase; 6-phosphofructokinase isozyme 1	[]	Down Regulated	
fieF	948413	Ferrous-iron efflux pump fieF	[]	Temporally Down Regulated	
fpr	948414	Ferredoxin-NADP reductase	[]	Temporally Down Regulated	
uspD	948415	Universal stress protein D	[]	Temporally Up Regulated	
yiiS	948416	UPF0381 protein yiiS	[]	Temporally Up Regulated	
hemE	948497	Uroporphyrinogen decarboxylase	[]	Down Regulated	
yebO	946350	Uncharacterized protein yebO	[]	Down Regulated	
yiiR	948417	Uncharacterized protein yiiR	['Amino acid transport and metabolism', 'Building block biosynthesis']	Up Regulated	
hupA	948499	DNA-binding protein HU-alpha	[]	Down Regulated	
menA	948418	1,4-dihydroxy-2-naphthoate octaprenyltransferase	[]	Down Regulated	
nudC	948498	NADH pyrophosphatase	[]	Ambiguous/Unsorted	
yafQ	944911	Uncharacterized protein yafQ	[]	Up Regulated	
flu	946540	Antigen 43	[]	Down Regulated	
frdC	948680	Fumarate reductase subunit C	[]	Temporally Up Regulated	

zapA	947404	Cell division protein zapA		Temporarily Up Regulated
yeeX	946541	UPF0265 protein yeeX		Ambiguous/Unsorted
hfq	948689	Protein hfq		Down Regulated
sbmC	946546	DNA gyrase inhibitory protein		Temporarily Up Regulated
hisL	946547	His operon leader peptide		Ambiguous/Unsorted
hfxX	948688	GTP-binding protein hfxX		Down Regulated
hisG	946549	ATP phosphoribosyltransferase		Down Regulated
hisH	946544	Imidazole glycerol phosphate synthase subunit hisH		Down Regulated
xeeA	946545	Inner membrane protein yeeA		Up Regulated
ygbJ	947200	Uncharacterized oxidoreductase ygbJ	[]	Up Regulated
rpmI	946349	50S ribosomal protein L35		Down Regulated
rsmF	946348	Ribosomal RNA small subunit methyltransferase F		Temporarily Down Regulated
rplL	948489	50S ribosomal protein L7/L12		Down Regulated
yeeD	946539	UPF0033 protein yeeD		Temporarily Up Regulated
dsbB	946344	Disulfide bond formation protein B		Down Regulated
yebV	946347	Uncharacterized protein yebV	["Replication recombination and repair"]	Up Regulated
yoaH	946346	UPF0181 protein yoaH		Down Regulated
yfIC	947047	ECE01_3006; c3099; E2348C_2852; ECIA01_2689; APEC01_3956; ECS88_2749; ECDH10B_2743; ECUMN_2898; ECIA039_2780; UTI89_C2897; EC55989_2864; pC15-1a_066; Z3857; b4	b	Ambiguous/Unsorted
rplK	948484	50S ribosomal protein L11		Down Regulated
rplA	948483	50S ribosomal protein L1		Down Regulated
rimA	946340	b1822		Ambiguous/Unsorted
cpxR	948404	Transcriptional regulatory protein cpxR		Down Regulated
yobD	946343	UPF0266 membrane protein yobD		Down Regulated
rhtA	947045	Inner membrane transporter rhtA		Temporarily Up Regulated
ygbM	947207	Protein ygbM		Temporarily Up Regulated
manZ	946342	Mannose permease IID component		Temporarily Up Regulated
rpoB	948488	DNA-directed RNA polymerase subunit beta		Down Regulated
bolA	947043	Protein bolA		Temporarily Up Regulated
dinB	944922	DNA polymerase IV		Ambiguous/Unsorted
nusG	948485	Transcription antitermination protein nusG		Temporarily Down Regulated
yiiM	948406	Protein yiiM		Down Regulated
lepB	947040	Signal peptidase I		Down Regulated
pgk	947414	Phosphoglycerate kinase		Down Regulated
mscS	947416	Small-conductance mechanosensitive channel		Down Regulated
cpsG	946574	Phosphomannomutase		Temporarily Down Regulated
fbaA	947415	Fructose-bisphosphate aldolase class 2		Down Regulated
ugd	946571	UDP-glucose 6-dehydrogenase		Temporarily Up Regulated
argO	947418	Arginine exporter protein argO		Up Regulated
rpoE	947050	RNA polymerase sigma factor; RNA polymerase sigma-E factor		Up Regulated
rplD	947818	50S ribosomal protein L4		Down Regulated
rplC	947817	50S ribosomal protein L3		Down Regulated
ygfG	947410	Uncharacterized protein ygfG	["Replication recombination and repair", "Central intermediary metabolism", "DNA recombination"]	Temporarily Down Regulated
yhaH	947617	Inner membrane protein yhaH		Temporarily Up Regulated
hslU	948430	ATP-dependent hsl protease ATP-binding subunit hslU		Down Regulated
yebC	946379	UPF0082 protein yebC		Down Regulated
rvuC	946378	Crossover junction endodeoxyribonuclease rvuC		Down Regulated
rplB	947820	50S ribosomal protein L2		Down Regulated
metF	948432	Methylenetetrahydrofolate reductase; 5,10-methylenetetrahydrofolate reductase		Temporarily Up Regulated
surE	947211	Multifunctional protein surE		Down Regulated
yciS	944936	Inner membrane protein yciS		Down Regulated
rvuB	946371	Holliday junction ATP-dependent DNA helicase rvuB		Temporarily Down Regulated
truD	947214	tRNA pseudouridine synthase D		Down Regulated
rseB	947054	Sigma-E factor regulatory protein rseB		Temporarily Down Regulated
rseA	947053	Sigma-E factor negative regulatory protein		Ambiguous/Unsorted
metB	948434	Cystathione gamma-synthase		Down Regulated
znuA	946375	High-affinity zinc uptake system protein znuA		Ambiguous/Unsorted
ydeA	947218	UPF0401 protein yubL; Probable sugar efflux transporter; Sugar efflux transporter		Up Regulated
metJ	948435	Met repressor		Temporarily Up Regulated
srnB	947055	ATP-dependent RNA helicase srnB		Down Regulated
rsmA	944939	b0051		Down Regulated
cysN	947219	Sulfate adenylyltransferase subunit 1		Down Regulated
yciH	947058	Uncharacterized protein yciH	["Translation ribosomal structure and biogenesis", "translation"]	Down Regulated
nagE	945292	PTS system N-acetylglucosamine-specific EIICBA component		Up Regulated
ycfQ	947425	Uncharacterized HTH-type transcriptional regulator ycfQ	[]	Up Regulated
FldA	945293	Flavodoxin-1		Down Regulated
rdgB	947429	Nucleoside-triphosphatase; Nucleoside-triphosphatase rdgB		Down Regulated
InsE	944952	Transposase insE for insertion sequence IS3A/B/C/D/E/f/A/B; Transposase insE for insertion sequence IS3		Up Regulated
fur	945295	Ferric uptake regulation protein		Ambiguous/Unsorted
entE	947426	Enterobactin synthetase component E		Temporarily Up Regulated
ybaO	945091	Uncharacterized HTH-type transcriptional regulator ybaO	[" Metabolism of other compounds"]	Up Regulated
rpmC	947807	50S ribosomal protein L29		Down Regulated
rplP	947806	50S ribosomal protein L16		Down Regulated
rpmJ	947805	50S ribosomal protein L36 2; 50S ribosomal protein L36; 50S ribosomal protein L36 1		Down Regulated
yegH	946566	UPF0053 protein yegH		Ambiguous/Unsorted

rplR	947804	50S ribosomal protein L18					
murR	946568	b2427				Down Regulated	
tktA	947420	Transketolase 1				Down Regulated	
rplN	947809	50S ribosomal protein L14				Down Regulated	
rpsQ	947808	30S ribosomal protein S17				Down Regulated	
marA	947613	Multiple antibiotic resistance protein marA				Up Regulated	
yqfF	947608	Inner membrane protein yqfF				Up Regulated	
eda	946367	KHG/KDPG aldolase				Down Regulated	
glpF	948422	Glycerol uptake facilitator protein				Up Regulated	
zapB	948420	Cell division protein zapB				Up Regulated	
purT	946368	Phosphoribosylglycinamide formyltransferase 2				Down Regulated	
rplV	947813	50S ribosomal protein L22				Down Regulated	
rpsC	947814	30S ribosomal protein S3				Down Regulated	
rpsS	947811	30S ribosomal protein S19				Down Regulated	
cysC	947221	[Adenyl-l-sulfate kinase				Down Regulated	
hsIV	948429	ATP-dependent protease hsIV				Down Regulated	
earmB	947065	Cysteine/O-acetylserine efflux protein				Temporarily Up Regulated	
ybgF	947227	Uncharacterized protein ybgF				Down Regulated	
cyrR	948427	[HTH-type transcriptional repressor cyrR				Down Regulated	
exoX	946361	Exodeoxyribonuclease 10				Down Regulated	
selU	947063	tRNA 2-selenouridine synthase				Up Regulated	
maa	945096	Maltose O-acetyltransferase				Up Regulated	
pagP	946360	Protein crcA				Up Regulated	
kgtP	947069	Alpha-ketoglutarate permease				Temporarily Up Regulated	
yebF	946363	Protein yebF				Up Regulated	
adk	945097	Adenylyl kinase				Down Regulated	
edd	946362	Phosphogluconate dehydratase				Temporarily Down Regulated	
hha	945098	Hemolysis expression-modulating protein				Up Regulated	
yfiD	947068	Autonomous glycyll radical cofactor				Temporarily Down Regulated	
insF	944948	Transposase insF for insertion sequence IS3A/B/C/D/E/fA				Up Regulated	
ung	947067	Uracil-DNA glycosylase				Down Regulated	
htpG	945099	Chaperone protein htpG				Down Regulated	
glpK	948423	Glycerol kinase				Up Regulated	
yebG	946364	Uncharacterized protein yebG	['Translation ribosomal structure and biogenesis', 'Replication recombination and repair']			Up Regulated	
glpX	948424	Fructose-1,6-bisphosphatase class 2	[]			Temporarily Up Regulated	
yifF	947066	Uncharacterized tRNA/rRNA methyltransferase yifF	[]			Down Regulated	
speA	947432	Biosynthetic arginine decarboxylase; Arginine decarboxylase				Down Regulated	
vacJ	945582	Lipoprotein vacJ				Down Regulated	
mlaA	945582	Lipoprotein vacJ				Down Regulated	
CHIA	947837	Probable bifunctional chitinase/lysozyme				Up Regulated	
mpaA	945969	Protein mpaA				Up Regulated	
tufA	947838	Elongation factor Tu 2; Elongation factor Tu; Elongation factor Tu 1				Down Regulated	
bfr	947839	Bacterioferritin				Up Regulated	
cvoA	945080	Ubiquinol oxidase subunit 2				Down Regulated	
yfaL	946595	Uncharacterized protein yfaL				Up Regulated	
dtpA	947436	Tripeptide permease tppB				Ambiguous/Unsorted	
tppB	947436	Tripeptide permease tppB				Ambiguous/Unsorted	
cof	945089	IMP-PP phosphatase				Ambiguous/Unsorted	
mdlB	945088	Multidrug resistance-like ATP-binding protein mdlB				Temporarily Down Regulated	
glnK	945087	Nitrogen regulatory protein P-II 2				Down Regulated	
yjO	948451	Uncharacterized HTH-type transcriptional regulator yjO	[' RNA related', ' Type of regulation', ' Genetic unit regulated', 'regulation of transcription DNA dependent']			Down Regulated	
lon	945085	ATP-dependent protease La				Ambiguous/Unsorted	
clpX	945083	ATP-dependent Clp protease ATP-binding subunit clpX				Ambiguous/Unsorted	
argC	948455	N-acetyl-gamma-glutamyl-phosphate reductase				Temporarily Down Regulated	
ykgA	944956	UTI89_C0322; ECS88_0301; APEC01_1693; E2348C_0262; c0416; ECIAI39_0385; ECIAI1_0298; ECUMN_0338; b0300; EC55989_0303; Z0376; ECDH10B_0289	[]			Ambiguous/Unsorted	
ycfJ	945977	Uncharacterized protein ycfJ	[]			Temporarily Up Regulated	
argE	948456	Acetylornithine deacetylase				Down Regulated	
ydcU	945976	Inner membrane ABC transporter permease protein ydcU				Temporarily Up Regulated	
rpmG	946318	50S ribosomal protein L33				Down Regulated	
ppc	948457	Phosphoenolpyruvate carboxylase				Down Regulated	
fusA	947847	Elongation factor G				Down Regulated	
yjp	948458	E2348C_4267; ECUMN_4486; ECED1_4660; b3955; ECDH10B_4143; ECIAI1_4163; EC55989_4437; Z5513; ECS88_4410; UTI89_C4546; c4914; ECIAI39_3034				Down Regulated	
rpsG	947846	30S ribosomal protein S7				Down Regulated	
yeaQ	946311	UPF0410 protein yeaQ				Temporarily Up Regulated	
yeaY	946312	Uncharacterized lipoprotein yeaY	['Cell wall membrane envelope biogenesis', 'metabolic process']			Up Regulated	
yggE	947442	UPF0301 protein yggE				Down Regulated	
ompA	945571	Outer membrane protein A				Temporarily Up Regulated	
cusS	945978	Sensor kinase cusS; Sensor protein				Down Regulated	
rpmM	947828	50S ribosomal protein L13				Down Regulated	
ydbK	946587	Probable pyruvate-flavodoxin oxidoreductase				Up Regulated	
tehB	945979	Tellurite resistance protein tehB				Temporarily Down Regulated	
gspB	947826	Protein pioO				Ambiguous/Unsorted	
hspQ	945578	Heat shock protein hspQ				Temporarily Up Regulated	
asmA	946582	Protein asmA				Down Regulated	

trml	947448	tRNA (guanine-N(7)-)methyltransferase			Up Regulated	
mgsA	945574	Methylglyoxal synthase			Ambiguous/Unsorted	
yggW	947446	Oxygen-independent coproporphyrinogen-III oxidase-like protein yggW			Down Regulated	
mutY	947447	[A/G-specific adenine glycosylase			Down Regulated	
scpA	945576	Protein sbm			Up Regulated	
gshB	947445	Glutathione synthetase			Temporarily Down Regulated	
iscU	947002	NifU-like protein			Temporarily Up Regulated	
LeuC	945076	3-isopropylmalate dehydratase large subunit			Down Regulated	
glcA	948440	Glycerol dehydrogenase			Ambiguous/Unsorted	
puuC	947003	Gamma-glutamyl-gamma-aminobutyraldehyde dehydrogenase			Down Regulated	
ydbC	945980	Putative oxidoreductase ydbC			Ambiguous/Unsorted	
hcaR	947000	Hca operon transcriptional activator			Down Regulated	
ycsS	947001	Inner membrane protein ycsS			Down Regulated	
puuB	945072	Gamma-glutamylputrescine oxidoreductase			Down Regulated	
clpS	948443	ATP-dependent Clp protease adapter protein clpS			Up Regulated	
ompX	944967	Outer membrane protein X			Up Regulated	
yahN	944968	Uncharacterized membrane protein yahN			Up Regulated	
tesB	945074	Acyl-CoA thioesterase 2			Temporarily Up Regulated	
yahM	944969	Uncharacterized protein yahM	[]		Temporarily Up Regulated	
emrE	948442	Multidrug transporter emrE			Up Regulated	
cyoE	945073	Protoheme IX farnesyltransferase			Down Regulated	
ydcA	945986	Uncharacterized protein ydcA		['Energy production and conversion', 'Energy production transport', 'Macromolecules cellular constituent biosynthesis', 'electron transport chain', 'metabolism of small molecules']	Up Regulated	
yoaA	946305	Probable ATP-dependent helicase yoaA			Down Regulated	
yhcN	947835	Uncharacterized protein yhcN		['Transcription', 'Building block biosynthesis', 'RNA related', 'Type of regulation', 'DNA recombination', 'transcription', 'regulation']	Up Regulated	
thiB	946306	Thiamine-binding periplasmic protein			Temporarily Up Regulated	
hemX	948446	Putative uroporphyrinogen-III C-methyltransferase			Down Regulated	
yeaL	946307	Uncharacterized protein yeaL	[]		Temporarily Down Regulated	
flqA	946300	Flagella basal body P-ring formation protein flqA			Down Regulated	
mipA	946301	MitA-interacting protein			Down Regulated	
ydeM	945981	Anaerobic sulfate-maturing enzyme homolog ydeM			Up Regulated	
iscS	947004	Cysteine desulfurase			Ambiguous/Unsorted	
yeaE	946302	Uncharacterized protein yeaE			Temporarily Down Regulated	
ydfK	947451	Uncharacterized protein ydfK	[]		Up Regulated	
yggN	947453	Uncharacterized protein yggN		['Central intermediary metabolism']	Ambiguous/Unsorted	
soIA	944983	N-methyl-L-tryptophan oxidase			Down Regulated	
flqJ	947456	Peptidoglycan hydrolase flqJ			Down Regulated	
betI	944981	HTH-type transcriptional regulator betI			Up Regulated	
prpR	944987	Propionate catabolism operon regulatory protein			Up Regulated	
frmR	944986	Transcriptional repressor frmR			Down Regulated	
ycdX	948477	Putative hydrolase ycdX			Down Regulated	
sdaA	946331	L-serine dehydratase 1			Up Regulated	
murB	948470	UDP-N-acetylenopyruvylglucosamine reductase			Down Regulated	
manY	946332	Mannose permease IIC component			Temporarily Down Regulated	
yncJ	945990	Uncharacterized protein yncJ	[]		Ambiguous/Unsorted	
gseE	947013	Putative sensor-like histidine kinase yhfK; Sensor protein			Down Regulated	
girK	947013	Putative sensor-like histidine kinase yhfK; Sensor protein			Down Regulated	
panE	945065	2-dehydropanoate 2-reductase			Up Regulated	
yebY	947014	Uncharacterized protein yebY		['translation']	Down Regulated	
nudL	946330	Uncharacterized Nudix hydrolase nudL			Up Regulated	
yoaE	946335	UPF0053 inner membrane protein yoaE			Temporarily Down Regulated	
yheU	947863	UPF0270 protein yheU			Temporarily Down Regulated	
trg	945995	Methyl-accepting chemotaxis protein III			Up Regulated	
glnB	947016	Nitrogen regulatory protein P-II 1			Ambiguous/Unsorted	
xseB	945069	Exodeoxyribonuclease 7 small subunit			Ambiguous/Unsorted	
degS	947865	Protease degS			Down Regulated	
pepT	946333	Peptidase T			Ambiguous/Unsorted	
argD	947864	Succinylornithine transaminase; Acetylornithine/succinyl-diaminopimelate aminotransferase			Ambiguous/Unsorted	
manX	946334	PTS system mannose-specific EIIB component			Ambiguous/Unsorted	
cspC	946339	Cold shock-like protein cspC			Down Regulated	
crp	947867	Catabolite gene activator			Temporarily Down Regulated	
rimL	945998	Ribosomal-protein-serine acetyltransferase			Up Regulated	
coaA	948479	Pantothenate kinase			Temporarily Down Regulated	
ydcH	945997	Uncharacterized protein ydcH		['Channel type Transporters']	Temporarily Up Regulated	
tsgA	947869	Protein tsgA			Ambiguous/Unsorted	
yobF	946338	Uncharacterized protein yobF		['RNA related', 'Type of regulation', 'Adaptation to stress', 'transcription', 'regulation of transcription DNA dependent']	Down Regulated	
yhdH	947848	Putative quinone oxidoreductase yhdH			Temporarily Up Regulated	
slyX	947849	Protein slyX			Temporarily Up Regulated	
yggA	947462	Uncharacterized protein yggA	[]		Up Regulated	
prpB	944990	Methylisocitrate lyase			Up Regulated	
torS	945595	Sensor protein torS; Sensor protein			Temporarily Down Regulated	
frmB	944991	S-formylglutathione hydrolase frmB			Temporarily Down Regulated	
cbpM	945597	Chaperone modulatory protein cbpM			Up Regulated	
codB	944994	Cytosine permease			Down Regulated	
glcC	947466	Glc operon transcriptional activator			Temporarily Up Regulated	

proY	945050	Proline-specific permease proY		Temporarily Down Regulated
frmA	944988	S-(hydroxymethyl)glutathione dehydrogenase		Down Regulated
argH	948463	Argininosuccinate lyase		Ambiguous/Unsorted
sthA	948461	Soluble pyridine nucleotide transhydrogenase		Down Regulated
nusB	945054	N utilization substance protein B homolog; N utilization substance protein B		Down Regulated
oxyR	948462	Hydrogen peroxide-inducible genes activator		Temporarily Down Regulated
glyA	947022	Serine hydroxymethyltransferase		Down Regulated
yphH	947023	Uncharacterized protein yphH	['Carbohydrate transport and metabolism', 'Transcription', 'carbohydrate metabolic process']	Ambiguous/Unsorted
murG	946321	UDP-N-acetylglucosamine--N-acetylmuramyl-(pentapeptide) pyrophosphoryl-undecaprenol N-acetylglucosamine transferase		Down Regulated
mdh	947854	Malate dehydrogenase		Ambiguous/Unsorted
ftsW	946322	Cell division protein ftsW		Temporarily Down Regulated
yajR	945058	Inner membrane transport protein yajR		Up Regulated
ddlB	946324	D-alanine--D-alanine ligase B		Down Regulated
yheO	947851	Uncharacterized protein yheO	['protein folding']	Down Regulated
yfhR	945059	Uncharacterized protein yfhR	[]	Ambiguous/Unsorted
kefG	947857	Glutathione-regulated potassium-efflux system ancillary protein kefG		Up Regulated
yheS	947856	Uncharacterized ABC transporter ATP-binding protein yheS	[]	Temporarily Down Regulated
md	946328	Ribonuclease D		Ambiguous/Unsorted